

DTIC FILE COPY

2

AD-A216 346



DTIC
ELECTE
JAN 12 1990
S B D

AN ANALYSIS OF THE LITERATURE BASE
OF DEFENSE CONTRACT MANAGEMENT

THESIS

Mary L. Farquhar
Captain, USAF

AFIT/GCM/LSP/89S-5

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

90 01 11 004

2

AFIT/GCM/LSP/89S-5

AN ANALYSIS OF THE LITERATURE BASE
OF DEFENSE CONTRACT MANAGEMENT

THESIS

Mary L. Farquhar
Captain, USAF

AFIT/GCM/LSP/89S-5

DTIC
ELECTE
JAN 12 1990
S B D

Approved for public release; distribution unlimited

The contents of the document are technically accurate, and no sensitive items, detrimental ideas, or deleterious information is contained therein. Furthermore, the views expressed in the document are those of the author and do not necessarily reflect the views of the School of Systems and Logistics, the Air University, the United States Air Force, or the Department of Defense.

AFIT/GCM/LSP/89S-5

AN ANALYSIS OF THE LITERATURE BASE
OF DEFENSE CONTRACT MANAGEMENT

THESIS

Presented to the Faculty of the School of
Systems and Logistics of the
Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Contracting and Manufacturing Management

Mary L. Farquhar, B.S.
Captain, USAF

September 1989

Approved for public release; distribution unlimited

Preface

The purpose of this study was to analyze the literature base of the defense contract management field. The need to analyze the literature has been acknowledged by defense contracting experts as a means to demonstrate what is known about defense contract management as a field of practice.

The literature analysis consisted of the review of 1,131 defense contract management articles which had been published in the National Contract Management Journal and the Contract Management magazine. The study included five investigative questions which addressed the topics, authors, focus, perspective, and evolvement of the literature.

In accomplishing this thesis, I have received invaluable advice and support from others. I am especially indebted to my thesis advisor, Ms. Rita Wells, for her professional guidance and inspirational support which she continually provided. I also wish to thank Dr. William Pursch and the National Contract Management Association for providing the required data for the analysis. Finally and most importantly, I wish to thank my husband, Lou, for his patience and for giving me "first dibs" on the use of our computer throughout the past year.

Mary L. Farquhar

| | |
|--|-------------------------|
| NTIS GRA&I <input checked="" type="checkbox"/> | |
| DTIC TAB <input type="checkbox"/> | |
| Unannounced <input type="checkbox"/> | |
| Justification | |
| By _____ | |
| Distribution/ | |
| Availability Codes | |
| Dist | Avail and/or Special |
| A-1 | |

Table of Contents

| | Page |
|---|------|
| Preface | ii |
| List of Figures | vi |
| List of Tables | vii |
| Abstract | ix |
| I. Introduction | 1 |
| Specific Problem | 2 |
| Investigative Questions | 3 |
| Definition of Terms | 4 |
| Significance of the Study | 5 |
| Assumptions and Limitations | 8 |
| Background | 8 |
| II. Literature Review | 10 |
| Chapter Overview | 10 |
| Scope | 10 |
| Discussion | 12 |
| History of American Defense Contract Management | 12 |
| The Importance of Defense Contract Management | 14 |
| Body of Knowledge | 15 |
| Literature about the Literature | 17 |
| Vom Baur | 18 |
| Hirsch | 18 |
| Sherman | 19 |
| Wilker | 19 |
| Summary | 19 |
| NCMA Survey | 20 |
| Another Profession's Review of its Literature | 23 |
| Merriam | 23 |
| Merriam and Simpson | 24 |
| Cooper | 25 |
| Sork and Buskey | 27 |
| Charnley | 27 |
| Literature Classification Schemes | 28 |
| Martin | 28 |
| Tateyama | 28 |
| Park | 30 |
| Delphi | 30 |
| Conclusion | 33 |
| III. Method | 34 |
| General Discussion | 34 |
| Delphi | 36 |
| Implementation | 37 |
| Round One | 37 |

| | Page |
|--|------|
| Summary of Responses | 38 |
| Purposefulness | 39 |
| Additional Comments | 39 |
| Round Two | 40 |
| Summary of Likert Scale Responses | 41 |
| Summary of Rank Order Responses | 43 |
| Comparison Summary | 45 |
| Additional Comments | 45 |
| The Development of the Investigative | |
| Questions | 46 |
| Population | 50 |
| Classification | 50 |
| Scheme | 50 |
| FAR Topics | 51 |
| Process | 53 |
| Investigative Question 1 | 54 |
| Investigative Question 2 | 55 |
| Investigative Question 3 | 55 |
| Investigative Question 4 | 56 |
| Investigative Question 5 | 56 |
| Conclusion | 56 |
| IV. Findings | 58 |
| Chapter Overview | 58 |
| Investigative Question 1 | 58 |
| Analysis of the Journal | 60 |
| Analysis of the Magazine | 64 |
| Combined Analysis | 69 |
| Investigative Question 2 | 73 |
| Analysis of the Journal | 74 |
| Analysis of the Magazine | 74 |
| Combined Analysis | 79 |
| Investigative Question 3 | 84 |
| Analysis of the Journal | 84 |
| Analysis of the Magazine | 86 |
| Combined Analysis | 87 |
| Investigative Question 4 | 88 |
| Analysis of the Journal | 88 |
| Analysis of the Magazine | 89 |
| Combined Analysis | 90 |
| Investigative Question 5 | 92 |
| Overview | 92 |
| Format/Contents | 93 |
| Monthly Features | 95 |
| Individual Articles | 95 |
| Summary | 95 |
| Conclusion | 97 |
| V. Conclusions and Recommendations | 99 |
| Introductory Summary | 99 |
| Conclusions | 100 |

| | Page |
|---|------|
| Delphi | 100 |
| Investigative Question 1 | 102 |
| Investigative Question 2 | 102 |
| Investigative Question 3 | 104 |
| Investigative Question 4 | 104 |
| Investigative Question 5 | 105 |
| Recommendations | 106 |
| Suggestions for Improvement | 106 |
| Further Studies | 107 |
| Summary | 108 |
| Appendix A: Delphi Letter of Introduction to Experts | 110 |
| Appendix B: Delphi Round One | 111 |
| Appendix C: Delphi Round Two | 117 |
| Appendix D: Likert Scale Results: Nine Frequency Histograms Related to the Specific Areas Suggested for Investigation | 125 |
| Appendix E: General Structure of the Federal Acquisition Regulation to the Subpart Level | 130 |
| Appendix F: Literature Classification Scheme | 138 |
| Bibliography | 140 |
| Vita | 143 |

List of Figures

| Figure | Page |
|--|------|
| 1. NCMA Body of Knowledge | 16 |
| 2. Adult Education Literature Matrix | 24 |
| 3. Levels of the Procurement Process | 29 |
| 4. Frequency Histogram: Area 1 - Author Frequency . . | 42 |
| 5. Rank Order Results: Frequency Histogram | 44 |
| 6. Pareto Analysis: Major Themes - Journal | 61 |
| 7. Pareto Analysis: Neglected Topics - Journal . . . | 63 |
| 8. Pareto Analysis: Major Themes - Magazine | 65 |
| 9. Pareto Analysis: Neglected Topics - Magazine . . . | 68 |
| 10. Pareto Analysis: Major Themes - Combined | 70 |
| 11. Pareto Analysis: Neglected Topics - Combined . . . | 72 |

List of Tables

| Table | Page |
|---|------|
| 1. NCMA Survey Results: Importance of Monthly Magazine Sections | 21 |
| 2. NCMA Survey Results: Preference of Topic Coverage | 22 |
| 3. A Taxonomy of Literature Reviews | 26 |
| 4. Delphi Response: Round One | 38 |
| 5. Summary of Responses: Specific Area Abbreviations | 40 |
| 6. Likert Scale: Consensus of Expert Opinion | 42 |
| 7. Rank Order Responses: Weighted Results | 44 |
| 8. Candidates for Investigative Questions | 46 |
| 9. Consolidated Investigative Areas | 48 |
| 10. Investigative Questions | 49 |
| 11. Number of Articles Reviewed | 50 |
| 12. Other Topics | 53 |
| 13. Number of Articles per Topic | 59 |
| 14. Major Themes - Journal | 62 |
| 15. Neglected Topics - Journal | 64 |
| 16. Major Themes - Magazine | 66 |
| 17. Neglected Topics - Magazine | 67 |
| 18. Major Themes - Combined | 71 |
| 19. Neglected Topics - Combined | 73 |
| 20. Major Contributors - Journal | 75 |
| 21. Major Contributors - Magazine | 76 |
| 22. Major Contributors - Combined | 81 |
| 23. Major Contributors - Females | 85 |
| 24. Focus: Journal | 85 |
| 25. Focus: Magazine | 86 |

| Table | Page |
|--|------|
| 26. Focus: Combined | 87 |
| 27. Focus: Major Themes - Combined | 88 |
| 28. Perspective: Journal | 89 |
| 29. Perspective: Magazine | 89 |
| 30. Perspective: Combined | 90 |
| 31. Perspective: Major Themes - Combined | 91 |
| 32. Monthly Feature Sections: Magazine | 96 |

Abstract

The purpose of this study was to analyze the literature base of the defense contract management field. A descriptive research method was used to answer the five investigative questions. These questions addressed the major themes and neglected topics, major contributing authors, focus, perspective, and evolution of the literature.

The Delphi process of questioning was used to obtain expert opinion to support the purposefulness of the study and the definitization of the investigative questions. Once the Delphi process was completed, the investigative questions were developed. The literature analysis consisted of the review of 1,131 defense contract management articles published in the National Contract Management Journal and the Contract Management magazine.

The study identified "Federal Acquisition Regulation System" as the most popular topic in the literature while topics of a legal nature had been neglected. The 14 major contributors had written over 50 percent of the literature reviewed. Almost 50 percent of the literature had a conceptual focus and its overall perspective was primarily editorial. The analysis of the involvement of the Contract Management magazine indicated that defense contract management had closely followed current events over the years.

Further studies should be pursued to analyze additional defense contract management literature and to address other aspects of a literature analysis such as "depth" analysis.

AN ANALYSIS OF THE LITERATURE BASE OF DEFENSE CONTRACT MANAGEMENT

I. Introduction

The Department of Defense (DoD) has received unprecedented attention during the past several decades regarding the management of defense contracts. The spending habits of DoD have not only made the headlines of nearly every newspaper in the United States but have also become a major issue in the presidential campaigns. Due to the growing complexity of defense contract management problems, research in this field has become increasingly important. The criticality of procurement research has been recognized as "a means of improving the procurement process - one of the most crucial tasks in Government" (13:89). But how can researchers attempt to resolve the many complex problems of defense contract management without a means to first identify "what we don't know" about the field (13:89)?

Sork and Buskey state "Literature represents the knowledge base of a field of practice" (22:94). If the body of knowledge of a field is represented by its literature base, it follows that what is known and what is not known may be found in the literature. Thus, the literature base of defense contract management is the starting point for research to be done in this field of study.

Not only is defense contract management literature important for research but it is also valuable as an information source concerning the underlying principles of the field. Contracting with DoD is a dynamic process and the laws, implementing regulations, and policies are constantly changing. In this atmosphere of change, how well is new knowledge and information being provided in written form to the defense contract management field? How adequately does the literature reflect various perspectives of the issues? Is the new literature "building" on the existing literature? Questions such as these are being asked by experts in the defense contract management field (9:viii; 20; 21:vii).

The literature base of defense contract management is fundamental to demonstrating what is known about defense contract management as a field of practice. Policymakers, practitioners, and academicians rely on this body of knowledge for their research efforts, to keep abreast of changes in the field, and as an information source concerning the underlying principles of the field.

Specific Problem

No evidence was found of a previous attempt to analyze the literature base of defense contract management. It appeared that no one had consolidated the literature to identify those topics discussed nor attempted to identify those topics which the literature failed to discuss adequately. As a consequence, defense contract management

professionals may not know what is contained and what is not contained in the literature.

The objective of this research was to systematically describe the state and content of the literature base of defense contract management. The analysis focused on providing answers to the various questions being asked by experts in the field. The results of the analysis provide information vital to the decision-making processes of defense contract management policymakers, practitioners, and academicians. This will serve to improve the overall defense contract management system as it continues in its state of "never-ending innovation and change" (6:111).

Investigative Questions

The following investigative questions were addressed in this study:

1. Analyze the topics of the defense contract management literature base:
 - a. What is the breadth of the literature?
 - b. What are the major themes?
 - c. Which topics have been neglected and therefore, have a need for research and/or publication?
2. Describe the authors of the defense contract management literature base:
 - a. Who are the major contributors?
 - b. To which topics do they contribute?
 - c. What is their occupational background?
3. Analyze the focus of the defense contract management literature base.
4. Analyze the perspective of the defense contract management literature base.
5. Describe the evolvement of the Contract Management magazine and its areas of emphasis.

Definition of Terms

The definitions of important terms are provided in this section. In addition to reducing ambiguity and increasing objectivity, these definitions reflect the way the investigative questions are interpreted and addressed.

1. Analysis of Literature: The qualitative evaluation of the literature base in regards to the literature's focus, goal(s), perspective, organization, breadth, depth, contributors, and audience (2:2, 3).
2. Defense contract management: the discipline that includes all of the pre-award and post-award functions that are associated with entering into a contractual relationship on behalf of the Department of Defense involving the use of public funds (20).
3. Body of knowledge: the collection and ordering of information to provide a conceptual framework of general concepts, theories, laws and/or principles within a field of practice (24:32).
4. Federal Acquisition Regulation (FAR): "the primary regulation for use by all Federal Executive agencies in their acquisition of supplies and services with appropriated funds." (26:11)
5. Breadth: the "variety" of topics or number of articles written on a topic contained in the literature (5:468).
6. Depth: the extent to which the literature provides a thorough and comprehensive discussion of a topic (8:380).
7. Literature: the body of written work which discusses those topics dealing with a particular field of practice (8:826).
8. Focus: the degree to which literature is technical, human, or conceptual in nature (2:4).
9. Technical: having a focus towards providing practical information concerning how to perform a [contracting] task (10:12).
10. Human focus: the attention towards providing useful information to middle management; focuses on human values or interests (10:12).

11. Conceptual: having a focus towards providing information to top management; focuses on the organization's systems and goals (10:12).
12. Perspective: a specific point of view in understanding literature in relation to being a case study, topical, theoretical, or editorial in nature (2:5).
13. Case study: a perspective which presents information on a topic or occurrence after it has taken place (8:219).
14. Topical: a perspective which addresses a specific subject area or topic; includes material written for training purposes (8:1499).
15. Theoretical: a perspective which addresses an innovative concept not yet employed in practice; includes research (8:1475).
16. Editorial: a perspective which addresses a current issue (such as profit policy); includes critiques and opinions (8:444).

Significance of the Study

The literature base of defense contract management is important since it contains information which distinguishes defense contract management from other disciplines as a unique field of study. The literature also demonstrates what is known about defense contract management as a field of practice (22:86-87). Keeping abreast of the dynamic changes that are common to the field is a continual challenge. The literature plays an influential role in attempting to relate these changes to the defense contracting community.

Experts in the defense contract management field have realized that many unanswered questions concerning the literature need to be addressed. Finding answers to these questions requires an indepth analysis of the literature base. Herein lies the justification for this research - to

perform an analysis of the defense contract management literature base in order to provide purposeful information to policymakers, practitioners, and academicians in the defense contracting arena.

During an interview, Dr. William Pursch, President of the National Contract Management Association (NCMA), stated he is not aware of an existing indepth "qualitative" analysis of the defense contract management literature base (20). However, several "quantitative" analyses which he is aware of include NCMA's APPL Bibliography of Procurement Education Materials and the Cumulative Subject, Author, and Title Index: National Contract Management Journal.

As President of NCMA, Pursch sees the need for a qualitative and definitive study of the literature base. He explained that NCMA is trying to foster more publications in the defense contract management field and "in order to know what we should concentrate on, we need to know what already exists and the quality of what is written" (20). Pursch stated the identification of recurring themes within the literature would also benefit NCMA's effort (20). A central focus should be determined so that individuals can strive to build theory in relation to that focus (22).

Another significant impact of this study relates directly to efforts of the defense contract management community in trying to gain formal recognition as a profession. The literature of a profession represents its body of knowledge which in turn, helps the field attain

status as a profession (22:86). By analyzing the defense contract management literature, this research will be a major contribution towards the recognition of defense contract management as a profession.

Experts in the field were queried to obtain their opinion concerning the research. A modified Delphi technique was used to further establish the application of the research and to provide expert opinion to support definitization of the investigative questions.

Since defense contract management is now becoming an established field, it was interesting to note that a formal study of its literature base apparently had not been accomplished. People working in the field have had no source to which they could turn for information concerning the literature. Unfortunately, "No one knows what is out there" (20). This study may represent the first formal analysis of the literature base of defense contract management.

The review process encompassed a total of 1,131 articles and included various evaluation factors considered fundamental to a literature analysis (2:3). Approximately 400 hours were expended towards the completion of the article evaluation phase of the analysis.

The end product which resulted from the study was long overdue. It will impact universally upon the defense contract management community. The major impact is that a database of defense contract management literature finally exists for individuals needing this information.

Assumptions and Limitations

The major assumptions and limitations underlying the study are set forth in this section. The assumptions included:

1. The reader is familiar with the field of defense contract management.
2. The methods used by other professions to analyze their literature bases were appropriate to analyze the literature base of the defense contract management field.

The limitations underlying the study included:

1. The time constraint on completion of the research prevented an analysis of the entire defense contract management literature base. Therefore, the research was limited to two NCMA publications: the National Contract Management Journal and the Contract Management magazine.
2. The findings were limited to answering the five investigative questions.

Background

Since an analysis of the literature base of the defense contract management field apparently had not been done, similar previous research was not available for the literature review. However, several "limited" analyses of certain subject areas of the defense contract management literature were found and reviewed.

The Defense Logistics System Information Exchange (DLSIE) and Defense Technical Information Center (DTIC) were both queried in search of literature that related in a general way to procurement research and contract management. These searches identified several studies which were performed by other graduate students in the defense contract

management field. Certain segments of these studies proved to be relevant to the present research.

Additionally, the literature analysis methodology used by another profession was examined. The literature which was reviewed for this study is discussed in the next chapter.

II. LITERATURE REVIEW

Chapter Overview

This chapter contains a review of the literature applicable to a descriptive research effort to analyze the literature base of defense contract management. Considering that billions of taxpayer dollars are entrusted to the defense contract management community, this topic of study should generate a great deal of interest.

The scope of the research is addressed in the first section of this chapter, followed by a review of the history of defense contract management and its importance as a field of study. The discussion focuses on another profession's review of its literature as well as literature classification schemes. Included is a thorough explanation of the Delphi technique and its applicability to the research.

Scope. A search of the literature did not reveal any previous effort(s) to analyze the literature base of defense contract management. However, the literature search did uncover the works of several authors who had performed a "limited" analysis of certain aspects of the literature. In each case, the author's writing contributed to that one subject area in which they had identified a lack of existing literature (9:ii; 21:vii; 27:198).

Methodology was reviewed which had been used by researchers in other fields to analyze the literature base of their own profession. The profession of adult education was

used for this purpose since its methods have generic application to many fields of practice, including the field of defense contract management. Also, a substantial number of literature analyses have been accomplished by individuals in the adult education field. These analyses provided a strong source and example of another profession's review of its literature and the emphasis placed on such reviews.

The time constraint under which the research was accomplished did not allow for the analysis of the entire defense contract management literature base. Therefore, the research was limited to two publications of the National Contract Management Association (NCMA): the National Contract Management Journal and the Contract Management magazine. These two publications were chosen since they represent the literature of NCMA, the leading professional organization for defense contract management. They are most widely disseminated to contract specialists since NCMA's membership consists of 24,000 individuals directly associated with Department of Defense (DoD) contracting. The journal and magazine both have a focus and devotion to contract management. They reflect current thought on defense contract management issues.

Other contracting-type publications exist. The "Resources and Sources of Information for Acquisition Research" guide was developed for individuals involved in acquisition research (28). The guide identifies the many sources of information available, such as reports and

periodicals, legal references, statistical data, and governmental sources. However, many of these sources may not have complete relevance to the defense contract management community. One such publication which might have been considered was the Purchasing Management magazine.

Purchasing Management is the official monthly publication of the Twin Cities Purchasing Management Association and is sponsored by the National Association of Purchasing Managers. It is written for professional purchasing executives and its focus is on commercial contracting, not DoD contracting. The defense contract management community recognizes that commercial contracting and defense contracting have significant differences. Consequently, the Purchasing Management magazine was not selected for this study. The publications which most cohesively and completely represent the defense contract management literature base are the Contract Management magazine and National Contract Management Journal.

Discussion

History of American Defense Contract Management. The American federal government procurement process has evolved through periods of war and peace. One of the first steps taken by the government in dealing with procurement was in 1775, when the Second Continental Congress established a Commissary-General to acquire supplies for the Army. Although various congressional acts were implemented

in the intervening years, the first law to actually regulate federal procurement was not passed until 1792 (3:1-2).

In the early 1800's, some congressmen were found trying to arrange defense contracts with their favorite suppliers. In an early attempt to ensure ethical government contracting, Congress, in 1808, passed into law the requirement that every government contract contain a clause which prohibited members of Congress from benefiting from that particular contract (9:171).

These are but a few examples of congressional legislation which was enacted as the history of the American federal government procurement process began to develop. Since the first legislation was written, federal procurements have been in the public limelight. When high contract costs became a major concern in 1940, Treasury Directive 5000 was issued to provide policy on cost allocation and reasonableness in government contracts. This directive is the predecessor of present day cost principles (3:10).

The Armed Services Procurement Act of 1947 established very detailed procurement procedures which put the Armed Services Procurement Regulations (ASPR) into place in 1949. The ASPR was used by the DoD until 1978 when it was replaced by the Defense Acquisition Regulation (DAR). The DAR was replaced by the Federal Acquisition Regulation (FAR) in April of 1984 (3:14, 30). Through the continuous process of identifying and correcting problems, the regulations governing defense contracts have evolved to the present

state. The existing literature base of defense contract management is a reflection of this evolution (9:171).

The Importance of Defense Contract Management. Defense contract management involves more than one hundred agencies with thousands of individuals working in either government or industry. A vast number of laws and regulations governs this industry, giving managers of defense contracts a challenging field to cover. Experts in this field have their own reasons why defense contracts must be managed and why defense contract management is an important field of study.

According to Evans and others, "A major key to success in defense...lies in the effective organization and management of Government procurement" (6:3). Hirsch, author of The Contracts Management Deskbook, stresses that contract management is important since it increases the chances for success of the contract. He also states "Contracts must be managed so that they either make or save money and are otherwise well performed" (9:3, 22). Similarly, Sherman describes contract management as the necessary result of highly specialized and complex procurements (21:3).

Another viewpoint is that the objective of defense contract management is to provide better management of the nation's resources. Since the monies spent on defense procurement programs are of such an immense magnitude, the management of these programs is of considerable congressional and public interest. Hence, defense contract management is an important means of managing these resources (6:27).

The importance of defense contract management as viewed by several experts within the field was described in this section. Evans, Hirsch, and Sherman agreed that defense contract management is an important field of practice and that the defense contract manager is responsible for working with a vast number of acquisition regulations, unique contracting terminology, and an innumerable array of agency procedures and policies. Defense contract management personnel must keep abreast of current issues and changes. The general consensus of the authors reviewed was that defense contract management is a field of primary importance in the federal procurement system.

Body of Knowledge. Before reviewing other literature analyses, a brief discussion of the information that distinguishes defense contract management from other disciplines is relevant to this research. The sum of the information that covers the defense contract management field is called its body of knowledge. Several attempts have been made to establish one acceptable body of knowledge for the field. An example of this is shown in Figure 1. This structure represents the body of knowledge recognized by NCMA which was first developed in 1978 by Dr. Harry Page. It separates the knowledge base into three categories: basic tools and functions, contracts and procurement, and special topics and considerations. His structure further divides these three categories into more specific elements such as economics, management, and quality assurance. Based on this categori-

Basic Tools and Functions

| Economics | Accounting & Finance | Materials & Operations | Commercial Law (UCC) |
|-------------------------|------------------------------|----------------------------------|------------------------|
| Macroeconomic Concepts | Cost Accounting Basics | Elements of Production | Elements of a Contract |
| Microeconomic Concepts | Cost Accounting Standards | Elements of Industrial Marketing | Terms & Conditions |
| Industrial Organization | Elements of Business Finance | Elements of Logistics | Agency |
| Labor Economics | Financial Reports | Elements of Inventory Management | Warranties |
| | Break-Even Analysis | Surplus & Excess Property | Unconscionability |
| | Make or Buy Analysis | Materials Management | Breaches & Remedies |

Special Topics and Considerations

Special Topics Special Considerations

| | | |
|---------------------------------------|---|--|
| Budgeting for Procurement | Socio economic Objectives | Considerations in Architect & Engineer Contracting |
| Systems Acquisitions | Small & Minority Business Development | Considerations in Construction Contracting |
| Program/Project Management | Vendor's Management System Audit | Considerations in Services Contracting |
| Productivity | Subcontracting & Subcontract Management | Considerations in R&D Contracting |
| Automated Procurement | Commercial & Industrial Products | Considerations in ADP Contracting |
| Ethics, Conflict of Interest | Small Purchases | |
| Value Analysis | International Purchasing | |
| Safety, Reliability & Maintainability | Government Property | |

Contracts and Procurement

Management

| | | | |
|---------------------------------------|-------------------------|-----------------------------------|-------------------------|
| Procurement Organization & Management | The Procurement Process | Statutory & Regulatory Foundation | The Contracting Officer |
|---------------------------------------|-------------------------|-----------------------------------|-------------------------|

Pre-Award

Post-Award

| Acquisition Planning | | Contract Administration | |
|-----------------------------|-----------------------------|------------------------------------|--|
| Requirements Determination | Solicitations, Bids, Awards | Financial Management of Contracts | Changes |
| Contract Types | Source Selection | Quality Assurance | Terminations |
| General Contract Provisions | Source Development | Inspection Acceptance & Warranties | Claims, Disputes & Appeals |
| Standards & Specifications | Negotiation Strategies | Monitoring Contract Performance | Contract Closeout |
| Patents & Data Rights | Cost & Price Analysis | Contract Auditing | Acquisition Management Information Systems |

Figure 1. NCMA Body of Knowledge (16)

zation, individuals sponsored by NCMA are developing educational modules for each area of study. Figure 1 reflects the most current structure used by NCMA to represent the body of knowledge of the defense contract management field.

A more recent attempt to define the body of knowledge for the contracting discipline was the focus of a Masters thesis completed at the Naval Postgraduate School in 1987 by LCDR Connie Thornton. A qualitative research approach was taken to pursue her primary objective of how to define the contracting discipline's body of knowledge (24:10). The primary outcomes of the research were a generic definition of the body of knowledge and why a body of knowledge is necessary to a profession. Concerning the latter, Thornton concluded:

A body of knowledge essentially provides a theoretical base which serves to focus efforts in education, training, certification, writing, rigorous research, and the development of standards and operating axioms. (24:98)

All types of literature at various levels are necessary in building a knowledge base for a field. The relevance of the concept of a body of knowledge to this research is that the literature of defense contract management represents the knowledge base of this field. To quote one source:

Periodic critical analysis and synthesis of that literature is an important step in the growth of a body of knowledge; it is a type of meta-research which assesses progress and suggests new directions (22:94).

Literature about the Literature. As the field of defense contract management has grown and expanded, so has its literature base. Although the literature base in and of

itself has apparently never been the focus of a formal study, some effort has been made to analyze isolated subject areas. As a result of this literature search, four individual analyses of the defense contract management literature base were found. A brief review of each analysis is presented to show that they share a common theme.

Vom Baur. Contract law is but one area within the field of defense contract management. In July of 1982, vom Baur reviewed the state of the literature base of government contract law. Although government contract law has been a distinct area since about 1955, he discovered a definite lack of available written materials. Vom Baur surmised that many foolish mistakes were being made since people had no way of readily finding out new subject information. As a result of this realization, vom Baur showed how concerted efforts were made to remedy the situation by providing the necessary literature to field personnel through the publishing of the "Board of Contract Appeals Decisions," Navy Contract Law, "The Government Contractor," the Government Contract Handbook, Government Contracts, Government Contract Bidding, and Government Contract Disputes (27:198-199).

Hirsch. Although he did not conduct a formal research effort, Hirsch commented extensively on the current literature base of contracts management in his book entitled The Contracts Management Deskbook. He states:

When you look around, you find that current literature on contracts management is segmented. There are books dealing with buyers' issues and those that address the contracting problems of sellers. There are books on the

management of government contracts and some that explore the management of commercial contracts in a specialized industry. (9:vii)

In an attempt to tie together government and commercial contracts management for buyers and sellers, Hirsch authored a book. His intent was to provide a practical resource to establish a foundation for contracts management (9:viii).

Sherman. Sherman discovered a void existing in the literature dealing with the post-award phase of contract management. He believed that the existing literature covered primarily the buying phases of defense contract management and that publications providing any indepth information on the post-award phases were lacking (21:18). Accordingly, Sherman's book, Contract Management: Post Award, was written with the specific purpose of filling "that void in the literature of management" (21:vii).

Wilker. In the "Foreword" of Sherman's book, Wilker agreed "there has been a severe scarcity of textbooks dealing with contract management" (21:v). This has created frustration for instructors, students, and contract managers seeking knowledge and guidance. Wilker stated that Sherman's book was an aggressive effort to resolve the problem (21:v).

Summary. In this section, four individual analyses of defense contract management literature were reviewed. Each analysis considered only an isolated subject area within the defense contract management arena. Hirsch, vom Baur, Sherman, and Wilker each concluded that the literature for that particular subject area was inadequate.

NCMA Survey. Periodically, NCMA has surveyed its membership to "identify member needs and interests to enable NCMA to improve member services and address the changing needs of the membership" (17:1). NCMA's most recent survey was sent to a random sample of 4,500 of its membership in November 1988. A total of 1,858 completed surveys were received with a response rate of 41.3 percent. Recommendations and conclusions were developed based on the survey's findings. NCMA evaluated four primary areas: Membership Recruitment, Certification, Products and Services, and Publications (17:3-7). The "Publications" area was considered relevant to an analysis of the defense contract management literature base.

The survey contained five questions concerning NCMA publications. One question asked "How often do you feel the currently semi-annual Journal should be published?" Over 56 percent of the respondents were in favor of keeping the same schedule while 33 percent suggested the journal be published quarterly (17:73). Perhaps this finding has implications for the need for more extensive research and publication in the defense contract management field in general.

Members were also asked to rate ten of the monthly magazine sections according to their interest in each section. Table 1 provides the results of the rating. The following sections were rated by the respondents as the most interesting ones: Legislation and Regulations, For Beginners Only, Case Commentary, and Training Problems and Solutions.

Table 1. NCMA Survey Results:
Importance of Monthly Magazine Sections
(17:75)

| <u>SECTION</u> | <u>VERY INTERESTING</u> | <u>MODERATELY INTERESTING</u> | <u>OF LITTLE INTEREST</u> | <u>NO INTEREST AT ALL</u> | <u>DO NOT READ</u> |
|--|-----------------------------|-----------------------------------|-------------------------------|-------------------------------|------------------------|
| For Beginners Only | 41.0% | 40.3% | 12.7% | 1.7% | 4.7% |
| Legislation and Regulations | 59.3% | 33.8% | 4.7% | 0.3% | 2.0% |
| Speaking Out | 26.2% | 48.4% | 19.9% | 2.1% | 3.4% |
| Training Problems and Solutions | 30.6% | 43.3% | 18.4% | 3.2% | 4.4% |
| Subcontracting Made Easy | 23.8% | 42.0% | 24.3% | 4.7% | 5.2% |
| Chapter Bulletin Board | 11.9% | 29.9% | 35.3% | 12.7% | 10.3% |
| Summaries of National/ Regional Conferences | 8.0% | 29.6% | 35.7% | 14.1% | 12.7% |
| Manager's Desk | 15.1% | 44.4% | 27.4% | 6.9% | 6.2% |
| Case Commentary | 38.2% | 44.2% | 12.6% | 2.0% | 3.1% |
| Final Edition | 27.5% | 43.1% | 18.6% | 3.4% | 7.4% |

When asked what three topics they would like to see given more coverage, members' top responses were: practical know-how, career development, and economics (17:78). Table 2 shows the overall results of this survey question.

Several questions in the survey addressed membership products and services. From the responses received to these questions, mean ratings were calculated to determine the relative ranking of importance of those factors which affected the member's decision to join NCMA. The third most

Table 2. NCMA Survey Results:
Preference of Topic Coverage
(17:78)

| <u>TOPIC</u> | <u>% OF TOTAL SAMPLE</u> |
|----------------------|------------------------------|
| Economics | 34.7% |
| Software | 21.5% |
| Career development | 48.9% |
| Personal/Work | 11.9% |
| Chapter activities | 7.1% |
| Practical know-how | 78.7% |
| International issues | 23.6% |
| Interviews | 13.9% |
| Ethics | 28.0% |
| Other | 8.3% |
| TOTAL RESPONDENTS | 1,858 |

important factor was "To keep informed through NCMA publications." Additionally, ratings were determined for those factors which influenced members to retain their NCMA membership. In this calculation, the second highest ranking was "To keep informed through NCMA publications" (17:25).

Some additional findings of NCMA's survey are listed below:

1. Of the total respondents, 28.7 percent were females and 71.3 percent were males (17:10).
2. Of the total respondents, 30 percent had been in the field for 5 years or less. Almost 50 percent had been in the field for 6 to 20 years and 20 percent had been in the contract management field for over 20 years (17:11).
3. The survey requested members to state their highest academic degree. The results showed that 82.7 percent of the members had attained at least a Bachelors degree while over 42 percent had a graduate or professional degree (17:12).

4. Approximately 50 percent of the respondents indicated business as their major field of study. Less than 10 percent indicated law, engineering, liberal arts, and contracts and acquisition management as their major field (17:13).
5. When requested to identify their employer, approximately 37 percent of the respondents listed the federal government while 51.5 percent listed industry (17:14).

A representation of the findings resulting from NCMA's most recent member survey were discussed in this section. These findings were specifically concerned with NCMA's magazine and journal, the two publications used in this study to analyze the defense contract management literature base.

Another Profession's Review of its Literature. In addition to reviewing the limited analyses of defense contract management literature, the profession of adult education was evaluated to determine how it analyzed its literature base. This profession was chosen since it offered several literature analysis methods for review. Various aspects of each of these methods were found to be appropriate for use in the analysis of the literature base of defense contract management.

Merriam. In one of her articles, Merriam developed a matrix for organizing adult education literature. She proposed that a matrix be used as "a framework for approaching this vast body of literature ... to quickly identify a focus and the supporting literature for their respective activity" (14:4). The matrix is shown in Figure 2. The horizontal axis represents the degree to which the literature focuses on adult learning versus generic learning. The

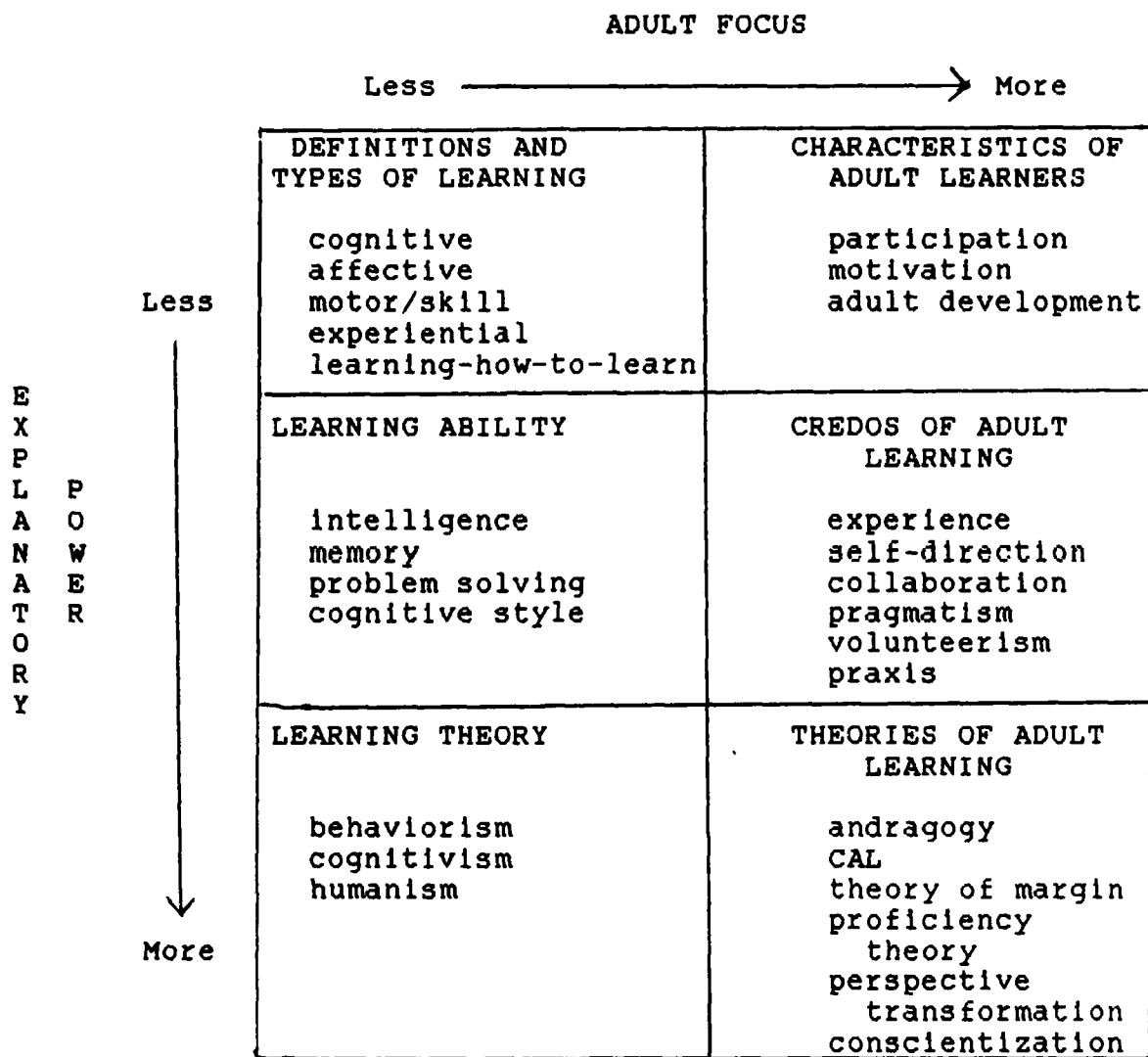


Figure 2. Adult Education Literature Matrix
(14:4)

vertical axis describes the degree to which the literature defines the types of learning versus learning theories (14:5). This matrix allows the reviewer to organize adult education literature according to its focus.

Merriam and Simpson. In A Guide to Research for Educators and Trainers of Adults, Merriam and Simpson stated

that one important feature of a literature analysis is to identify areas that have been neglected (15:37). It is also common for certain recurring themes or topics to emerge from the literature (15:44).

Merriam and Simpson explained two methods for analyzing literature for simple descriptive purposes. First, the "chart method" can be used to portray the literature. This method uses appropriate classification categories to list the data in the chart, i.e., topics, dates, authors, etc. (15:37-38).

A second method they advocated is the "conversational approach" which is simply a narrative of the findings of the literature analysis (15:42). The nature of the resulting data is used to determine whether the chart or conversational method is more suitable.

Cooper. According to Cooper, literature reviews in adult education are growing in prominence due to "the accompanying information explosion that has occurred" (2:1). It is difficult to keep up with this overload of published information. Therefore, one sees an increased reliance on literature reviews to keep abreast of changes and developments within the field. The purpose of Cooper's paper was "to help practicing literature reviewers produce documents of maximum utility for their audiences" (2:2).

In the field of education, a literature review is defined as "surveys of the materials published on a topic ... summarizing the substance of the literature and drawing

conclusions from it" (2:2). Cooper recognized that reviewers of the literature may have different goals in mind. Based on his evaluation of these goals, he developed a taxonomy to systematically present the central foci and goals of literature reviews. Table 3 shows Cooper's taxonomy.

Table 3. A Taxonomy of Literature Reviews (2:4)

| <u>CHARACTERISTIC</u> | <u>CATEGORIES</u> |
|-----------------------|--|
| Focus | Research Outcomes Research Methods Theories Practices or Applications |
| Goal | Integration a) Generalization b) Conflict Resolution c) Linguistic Bridge-Building Criticism Identification of Central Issues |
| Perspective | Neutral Representation Espousal of Position |
| Coverage | Exhaustive Exhaustive with Selective Citation Representative Central or Pivotal |
| Organization | Historical Conceptual Methodological |
| Audience | Specialized Scholars General Scholars Practitioners or Policymakers General Public |

The taxonomy categorizes literature analyses according to focus, goal, perspective, coverage, organization and audience. Due to its general and all encompassing nature,

Cooper suggested that the taxonomy be used to adequately describe the intent and nature of the work of any literature reviewer (2:10).

Sork and Buskey. These two academicians provided yet another analytical framework for analyzing literature. In their study to analyze adult education program planning literature, Sork and Buskey first identified characteristics of the literature which they planned to evaluate. These characteristics were categorized into descriptive dimensions and evaluative dimensions. They judged the literature by providing a rating of low, medium, or high for each characteristic and then used a chart method similar to that advocated by Merriam and Simpson to display the data (22:87-88). In a post-evaluation of their study, Sork and Buskey concluded:

The method of analysis used, particularly the analytical summary chart, represents a way of exploring a body of literature using a uniform and explicitly defined set of dimensions so that similarities and differences can be identified and reported. Periodic critical analysis and synthesis of that literature is an important step in the growth of a body of knowledge. (22:94)

Charnley. Charnley analyzed the research literature of the adult education field in the British Isles. His analysis included an organized and systematic review of British theses and important miscellaneous research documents. Charnley's literature review was designed to provide a comprehensive guide for assessing the nature, breadth, and depth of adult education research (1:361). His review methodology followed a "self-styled general

classification system." Charnley's scheme organized the research literature according to the content of the document which he categorized under eight major headings. Also characteristic of his review was adherence to a systematic review format (1:361).

Literature Classification Schemes. Previous research involving attempts to classify data was reviewed. These methods of classification are discussed in this section by author(s).

Martin. The need for data to be organized in the vast field of contracting has been recognized by many. In 1977, Martin and others initiated a study to "clearly define procurement research and to classify its characteristics into a usable conceptual model" (13:85). For the purpose of their study, procurement research was defined to include "both the procurement and acquisition processes and their interrelationship" (13:95). Based on this definition, the authors considered a taxonomy of the procurement process to be a suitable foundation for a procurement research taxonomy.

The resulting taxonomy of procurement research divided the procurement process into five levels (see Figure 3). The authors concluded that their attempt to classify procurement research was "only the first step" towards developing a basis for procurement research to be structured (13:95).

Tateyama. While Martin and others were developing their taxonomy, Tateyama was developing his own taxonomy to classify official defense acquisition documents. He

```

Level 1:  Process
          *
          *
Level 2:  Phase
          *
          *
Level 3:  Cycle
          *
          *
Level 4:  Event
          *
          *
Level 5:  Issue

```

Figure 3. Levels of the Procurement Process (13:95)

recognized the need for a "universal taxonomy" to organize defense acquisition management information in order for the field to develop as a real profession (23:B-1). Tateyama stated "Every professional group needs such a taxonomical framework for classifying and organizing its body of professional knowledge" (23:A-1). His framework was developed to identify "weak" areas within the body of knowledge needing to be strengthened and, to organize the documents containing the knowledge base so that individual members could easily locate potential sources of information (23:A-1).

The principles of classification used in organizing Tateyama's taxonomy were based on practical usage, the Defense Systems Management College (DSMC) curriculum, and organizational levels of related documents. Tateyama recommended his taxonomy be used primarily to inventory official DoD acquisition documents because of its orientation (23:A-2).

Park. In his Naval Postgraduate School Master's thesis, Park discussed several classification schemes developed in the contracting field. Concerning Martin's taxonomy he stated "Additional work may be needed to refine and update the proposed taxonomy" since it appears to be insufficient for "developing theories and for providing an understanding of the subject matter" (18:92). Park suggested that a more useful classification scheme would be one "based on the type of good or service obtained...the different types of sellers, or the various contracting functions" (18:92).

Park advocated that further research was required concerning a contracting classification scheme. In his thesis, he developed a matrix to explain the scope of contracting. His matrix used three categories to classify contracting characteristics and phenomenon: 1) government/non-government, 2) certainty or uncertainty, and 3) normative/descriptive. Park's model was developed solely for explanatory purposes for his thesis and not for implementation in the defense contracting field in general.

Delphi. During the past several decades, the Delphi technique has been the focus of many studies to determine its feasibility in various cases. The literature was reviewed to ascertain what Delphi is and how it might be applied to this study. A brief summary of the Delphi process and its purpose is provided in this section.

Delphi is the name of a set of procedures used to gather a consensus of expert opinion through two or more rounds of

questioning. Some consider Delphi to be "more of an art than a science" (12:3). The process differs from a typical polling procedure in that it consolidates the feedback of the responses received from all of the participants and allows the participants to "refine their judgements, based upon their reaction to the collective views of the group" (12:22). The Delphi process has the following three distinctive characteristics: anonymity, controlled feedback, and a statistical group response (4:3).

The individual participants often remain anonymous to each other in order to encourage honest and open responses. The anonymity characteristic may be applied in varying degrees both on the "individual and collective responses to avoid undesirable psychological effects" (12:22), thus eliminating the undesirable effects of interaction between members of the group. "The experts need not meet face-to-face, nor need they know who the other experts are" (25:172). Written questionnaires are typically used for this purpose, "each one being more structured and requiring more focus by the respondent than the preceding one" (15:118). Once the responses from the original questionnaire are received, the information is summarized and compiled into a second questionnaire. Linstone and Turoff acknowledge that with successive iterations, the participants tend towards agreement in their opinions. Therefore, they suggest that the Delphi monitor should structure successive questionnaires in a fashion that will NOT present a bias which will

encourage an unnatural convergence of opinion (12:44). In analyzing the effect of feedback, they found that participants are "sensitive to the feedback of distributions of scores from the group as a whole" (12:272).

The second questionnaire requires the participants to provide feedback on the opinion received from the entire group. This process is repeated until a consensus of opinion is reached (19:16). The resulting data may then be analyzed to generate a frequency distribution which represents the degree of consensus among the experts.

Dr. Norman Dalkey of the RAND Corporation has done considerable research on the Delphi technique. A number of "principles" have evolved from his research. Several of these are summarized below.

1. The number of rounds of questioning will depend on the problem and the time available. One experiment resulted in the responses of the second round being more accurate than the responses on the fourth round (4:7).
2. Many factors are involved in determining the number of experts. Some studies showed that seven experts yielded good results (19:17).

The Delphi approach is particularly useful when the problem under consideration does not lend itself to precise analytical techniques. In other words, Delphi is appropriate for problems that are subjective in nature. An advantage of this method is that it frequently results in the stimulation of new ideas (19:2, 21). Conversely, several disadvantages include difficulty in determining the appropriate number of experts; the researcher may not be objective in analyzing

the results; and the series of questionnaires can be very time-consuming. In summary, the Delphi technique is "a relatively rapid and efficient way to 'cream the tops of the heads' of a group of knowledgeable people" (19:22).

Conclusion

Through the decades, the literature base of defense contract management has been developed through contributions by individuals within the field. People working in the defense contract management field have access to a variety of literature resources.

It appears that the defense contract management literature base has never been the subject of a formal analysis. This has created a problem for those individuals needing a source of information about the literature. Some authors have evaluated individual subject areas within the literature and found them to be lacking. In response, these individuals have written books and articles in these areas.

In this chapter, literature was reviewed to provide the background for pursuing a descriptive analysis of the literature base of defense contract management. This study should be viewed as "an initial attempt to identify, analyze, and evaluate a large body of knowledge representing a significant domain of research and practice" (22:94).

III. METHOD

General Discussion

A qualitative research approach was used for this study. Qualitative research supports the inductive development of a theory rather than the deductive testing of a hypothesis. Consequently, "it [qualitative research] is a better model for studying dynamic situations in which authors and context cannot be separated" (7:4). For this reason, a qualitative approach was determined appropriate for analyzing the literature.

The purpose of the literature analysis was to describe certain characteristics of the defense contract management literature base. The purpose of descriptive research is "to describe systematically the facts and characteristics of a given population or area of interest" (15:58-59). Thus, a descriptive research design was used to evaluate the literature's current state.

The study entailed asking questions which had not been addressed in previous defense contracting research efforts. Therefore, it required the development of a means appropriate for obtaining the desired information. With this in mind, the literature of adult education was reviewed to see how that profession analyzed its literature and to determine whether an existing method was available for pursuing a literature analysis.

The review of the adult education literature did not identify one concise method for analyzing literature. Rather, several generic methods were found which could be used by any field of study to analyze its literature base. In the aggregate, these methods assessed the major contributors, recurring themes and neglected topic areas, breadth and depth, and focus and perspective. Due to their generic nature, all of these literature analysis methods were deemed appropriate to the analysis of the literature base of defense contract management.

The literature review (see Chapter 2) unsurfaced previous attempts to develop classification schemes for the defense contracting sector. None of these schemes were applicable to this study. Hence, a classification scheme was devised which was appropriate to the study, easy to use, and readily identifiable by the defense contract management community.

The method developed for conducting this study was based on the intent to analyze the literature and provide useful information to the defense contract management community. This consisted of two steps. In the first step, the Delphi technique was used to obtain expert opinion concerning the purposefulness of the study and support for the investigative questions. Once the investigative questions were established, the second step consisted of the literature analysis. The general structure of the Federal Acquisition Regulation (FAR) was used to classify the literature.

Simultaneously, the topics, authors, focus, and perspective of the literature were identified. The literature was then described in answering the investigative questions.

A detailed discussion of the method used in accomplishing the two aforementioned steps is provided in this chapter. The Delphi process and its findings are presented in the first section. This is followed by a discussion of the development of the investigative questions and the process employed to analyze the literature.

Delphi

Delphi is the name of a set of procedures used to gather a consensus of expert opinion. The Delphi technique is particularly useful for a problem which does not lend itself to precise analytical techniques and which is subjective in nature. Generally, two or more rounds of written questionnaires are used for this purpose. Once the responses from the first questionnaire are received, this information is summarized and compiled into a second questionnaire. The second questionnaire allows the participants to provide feedback on the group opinion. The questioning process is repeated until a consensus of expert opinion is reached (19:16).

The Delphi process was useful to this study in two ways. First, expert opinion was obtained to support the purposefulness of an analysis of the literature base of defense contract management. Additionally, the expert

opinion provided support in definitizing the five investigative questions.

Implementation. It was determined that 12 experts in the field of defense contracting would be invited to participate in the Delphi process of questioning. This number was believed to be small enough for manageability yet large enough to provide adequate feedback. Dr. William Pursch, President of the National Contract Management Association (NCMA), was requested to provide a list of 12 experts in the defense contract management field. To guide his selection process, two criteria were established. The first criterion was that an equal number of individuals be chosen to represent industry and government since defense contract management is a field which involves both of these groups. The second criterion was that individuals with a wide variety of contracting backgrounds be selected to allow the best contract management minds to be tapped.

A letter was sent to each of these individuals, identifying the purpose of the study and inviting them to participate in the Delphi process. Appendix A is a sample of the letter of introduction. All 12 experts agreed to participate in the Delphi process of questioning.

Round One. The Round One Delphi questionnaire was mailed to the 12 experts on 25 November 1988. Appendix B is a sample of Round One. The questionnaire consisted of the following two topics:

1. In your opinion, would an analysis of the literature base of defense contract management serve a useful purpose, and if so, for what reason(s)?
2. Please list no more than five questions or specific areas that you believe the literature analysis should seek to answer or evaluate. Consider how the results might be used by different individuals such as yourself, policymakers, academicians, and practitioners in the field.

In addition to responding to the two topics, participants were invited to provide additional comments regarding their opinions.

Summary of Responses. An analysis of the Round One responses provided the information displayed in Table 4.

Table 4. Delphi Response: Round One

| | |
|--|------------|
| No response received | 5 or 41.7% |
| Response received | 7 or 58.3% |
| Responded: "do not feel qualified" . . . | 1 or 14.3% |
| Failed to respond in accordance with the definition given for "analysis of literature" | 1 or 14.3% |
| Responses to be used in Round Two . . . | 5 or 41.7% |

Although anonymity was characteristic of this Delphi application, the participants' names were revealed in six of the seven Round One responses. The participant responding "do not feel qualified" was identified, eliminated from the list of participants, and was not included in future rounds of the Delphi questioning process. The participant who failed to respond in accordance with the definition provided for "analysis of literature" was omitted and not included in Round Two.

After eliminating the two responses indicated in the preceding paragraph, a thorough evaluation of the remaining five responses was conducted to identify similar ideas among the respondents. These similar ideas were consolidated into a summarization of the expert opinion received from Round One. The summary of responses was included in Round Two, which is located in Appendix C.

Purposefulness. The Round One responses received for Topic 1: Purposefulness, provided additional justification and support for the literature analysis of defense contract management. Of the five total responses used in Round Two, four indicated that an analysis would be helpful and extremely worthwhile and one respondent stated "I'm not sure." Hence, the Delphi finding that 80 percent of the experts were in favor of a literature analysis lends credence to the assertion that an analysis of the defense contract management literature base is purposeful.

Additional Comments. The participants were invited to provide additional comments in each round regarding their opinions. Comments received in the first round were diverse, ranging from a definition of contract management, to a recommendation that all contract management literature be analyzed, to a discussion of the origination of research literature from students rather than from established academicians. These comments did not have a direct impact upon the study.

Round Two. The responses received to Round One were summarized into ten specific areas which were sent to the participants as Round Two (see Appendix C). The researcher developed an abbreviation for each of the ten areas to simplify the process of analyzing the Round Two results. The abbreviations are listed in Table 5.

Table 5. Summary of Responses:
Specific Area Abbreviations

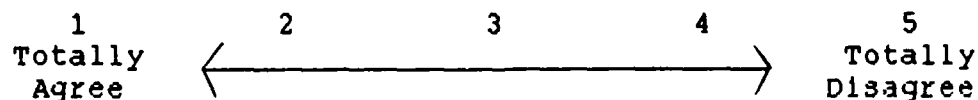
| <u>Area Number</u> | <u>Abbreviation</u> |
|--------------------|---------------------|
| 1 | Author Frequency |
| 2 | Author Background |
| 3 | Topic |
| 4 | Perspective |
| 5 | Bias |
| 6 | Reader Experience |
| 7 | Length |
| 8 | Quality |
| 9 | Abstract |
| 10 | All Literature |

The Round Two questionnaire requested the participants to provide feedback on the opinion received from the group as a whole. The feedback requested in this round was two-fold. First, a Likert scale was provided for participants to indicate the degree to which they agreed or disagreed that each of the ten specific areas should be addressed in the literature analysis. Next, participants were requested to rank order the top five areas which they felt should be the investigative areas for the research, in decreasing order of priority.

Data collected from the solicitation of expert opinion may be used "to generate a frequency distribution which represents the degree of consensus" (19:16). A 100 percent response rate was achieved for Round Two. Tables and frequency histograms were used to organize and analyze the results of the Likert scale and rank order responses.

Summary of Likert Scale Responses. The Likert scale responses were first tallied in order to ascertain the consensus of expert opinion for each specific area along the Likert scale. This was accomplished by evaluating each specific area to determine which Likert scale response had received the highest number of tallies. The tallying process resulted in the development of an individual frequency histogram for each specific area. The histogram for area 1 is displayed in Figure 4. The frequency histograms for the other nine specific areas are located in Appendix D.

A summary of the consensus of expert opinion for each area is presented in Table 6. The numbers in the "Likert Scale Response" column were interpreted by using the following continuum:



Several factors were evaluated to determine the five areas which the experts most totally agreed should be investigative areas for the study to address. First, those areas having a Likert scale response of "1" were identified since "1" indicated "totally agree." Then, for the "1"

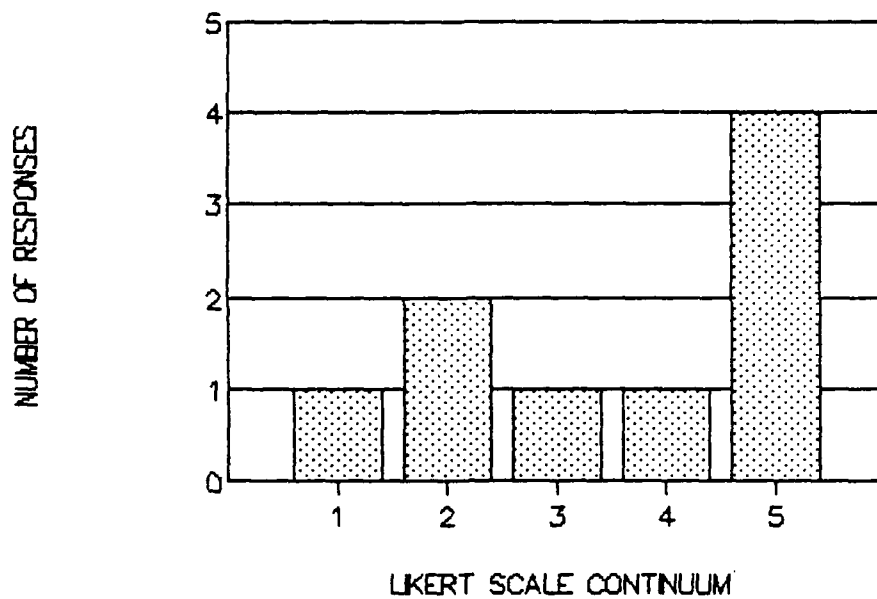


Figure 4. Frequency Histogram: Area 1 - Author Frequency

Table 6. Likert Scale:
Consensus of Expert Opinion

| <u>Specific Area</u> | <u>Likert Scale Response</u> | <u>Percent of Consensus</u> |
|----------------------|------------------------------|-----------------------------|
| 1 | 5 | 44.44 |
| 2 | 1 | 33.33 |
| " | 3 | 33.33 |
| 3 | 1 | 44.44 |
| 4 | 1 | 44.44 |
| 5 | 1 | 44.44 |
| 6 | 2 | 44.44 |
| 7 | 3 | 33.33 |
| " | 5 | 33.33 |
| 8 | 1 | 66.66 |
| 9 | 1 | 44.44 |
| 10 | 1 | 33.33 |

responses, the five areas having the highest percent of consensus were selected. The following five specific areas were found to have the highest consensus of expert opinion: topic, perspective, bias, quality, and abstract.

Summary of Rank Order Responses. The rank order responses were analyzed in a manner which differed only slightly from the analysis of the Likert scale responses. After the rank order responses were tallied, a point system was used to weight the rank given by each respondent to his/her top five areas. Points were assigned in the following manner:

| <u>Rank</u> | <u>Points</u> |
|-------------|---------------|
| 1 | 5 |
| 2 | 4 |
| 3 | 3 |
| 4 | 2 |
| 5 | 1 |

After the weights were applied to the tallied responses, the points for each area were summed to provide a total number of points for each specific area. The higher the number of points for an area, the stronger the agreement among the experts that it should be an investigative area for the study. Table 7 provides the weighted results of the rank order responses.

The "total points" row of Table 7 was used to develop the frequency histogram in Figure 5. Figure 5 shows the five specific areas which the experts most strongly agreed should be investigative areas for the study. These areas included topic, bias, quality, reader experience, and abstract.

Table 7. Rank Order Responses: Weighted Results

| RANK ORDER | SPECIFIC AREA | | | | | | | | | |
|--------------|---------------|---|----|----|----|----|---|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 5 | 0 | 0 | 10 | 5 | 0 | 0 | 20 | 0 | 0 |
| 2 | 0 | 4 | 8 | 0 | 4 | 4 | 0 | 0 | 12 | 4 |
| 3 | 0 | 0 | 6 | 0 | 6 | 3 | 6 | 3 | 3 | 0 |
| 4 | 2 | 0 | 0 | 0 | 0 | 8 | 2 | 4 | 0 | 2 |
| 5 | 0 | 2 | 0 | 3 | 1 | 1 | 0 | 1 | 1 | 1 |
| TOTAL POINTS | 7 | 6 | 14 | 13 | 16 | 16 | 8 | 28 | 16 | 7 |

* A maximum number of points represents areas of strongest agreement among the experts.

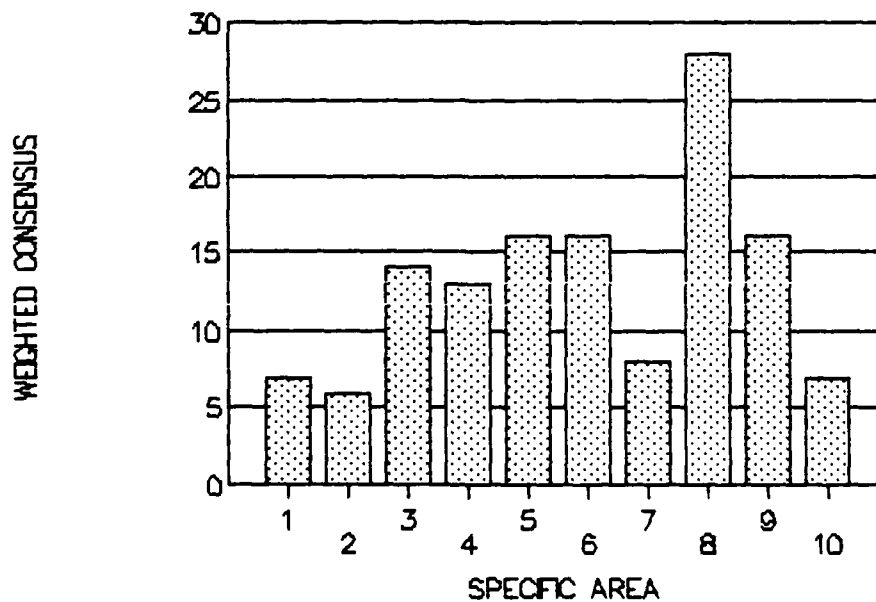


Figure 5. Rank Order Results: Frequency Histogram

Comparison Summary. A comparison of the findings from the Likert scale and rank order responses showed an area of inconsistency. Of the areas suggested by each of these feedback processes, four were in agreement. These areas were quality, bias, abstract, and topic. However, the Likert scale results indicated perspective as an investigative area while the rank order results indicated reader experience.

The purpose of using the Delphi process was to support the definitization of worthwhile investigative questions, not to "dictate" what the investigative questions must be. Therefore, it was deemed unnecessary to attempt to explain or discover the reason for the inconsistency of "perspective" versus "reader experience" between the Likert scale and rank order findings. The information provided thus far sufficiently met the intent of the use of the Delphi process.

After an evaluation of Round Two, it was determined that the first two rounds of questioning provided sufficient information to definitize the investigative questions. Another determining factor in limiting the Delphi process to two rounds was the limited time available to complete the study.

Additional Comments. Participants were invited to provide additional comments in Round Two regarding their opinions. Only one participant comment was received. This participant stated that the quality, bias, and length of the articles comprising the literature should not be areas of evaluation in an analysis of the defense contract management literature base.

The Development of the Investigative Questions

The purpose of using the Delphi technique in this study was to provide expert opinion to help guide and support the development of the investigative questions. Prior to implementing the Delphi, "candidates" for investigative questions were developed by the researcher (see Table 8). These initial questions provided a frame of reference for proceeding with the Delphi.

Table 8. Candidates for Investigative Questions

1. Which of the major topics contained in the Federal Acquisition Regulation (FAR) are discussed in the literature?
2. What is the breadth of the literature?
3. What is the depth of the literature?
4. Which topics have been neglected in the literature and therefore, have a need for research and/or publication?
5. Who are the major contributors to the literature and in what topic(s) is their expertise?

Definitizing the investigative questions was perhaps the most challenging aspect of this research effort. The following three factors were considered in meeting this challenge: 1) information from Chapter 2 of this thesis regarding how the adult education field analyzed its literature, 2) the candidates for investigative questions, and 3) the consensus

of expert opinion resulting from the Delphi technique. The next paragraphs describe the definitization process.

Since the candidates for investigative questions were based on methods used by the adult education field to analyze its literature base, only factors 2 and 3 of the preceding paragraph were initially used in the definitization process. First, the candidate questions were compared to the Delphi's suggested areas. The candidate questions provided for an analysis of major topics, neglected topics, breadth, depth, and major contributors to the literature. On the other hand, the consensus of expert opinion resulting from the Delphi suggested that quality, bias, perspective, reader experience, abstract, and topic should be analyzed.

In order to compare factors 2 and 3, a common ground had to be established. At first glance, it appeared that the two groups of areas suggested by each factor were indeed diverse. However, certain areas had sufficient similarities which allowed them to be considered as one area. These similar areas were combined in the following manner:

| <u>Similar Areas</u> | <u>New Area/Abbreviation</u> |
|--|------------------------------|
| depth, quality | depth |
| major topics, breadth, neglected topics, topic | topic |
| major contributors, author frequency, author background | author |

This common ground allowed the total investigative areas to be consolidated as shown in Table 9. The only areas supported by both the candidate questions and the Delphi

consensus were topic and depth. Consequently, since all of the areas were appropriate to an analysis of defense contract management literature, the next step was to evaluate each area in Table 9 for its feasibility in the study.

Table 9. Consolidated Investigative Areas

| <u>Candidates</u> | <u>Delphi</u> |
|-------------------|-------------------|
| Topic | Topic |
| Depth | Depth |
| Author | Bias |
| | Perspective |
| | Reader Experience |
| | Abstract |

The areas of depth, bias, reader experience, and abstract were determined to be infeasible investigative areas for this study. This determination was based on the subjectivity associated with the analysis of these areas as well as the vast amount of time required for their evaluation. The time factor alone was conclusive in rendering these areas beyond the scope of this research.

Conversely, topic, perspective, and author were judged as feasible areas. An objective method for analyzing these areas existed. The focus of the literature (as analyzed by the adult education field) was decidedly another objective investigative area and thus feasible for the study. Additionally, while reviewing the Contract Management magazine, the researcher recognized a distinct evolvement of this publication. On the premise that the literature as a whole

likely followed a similar evolvement process, the evolvement of the Contract Management magazine was established as an investigative area.

The preceding paragraphs discussed the process of definitizing the investigative questions. One factor used in the definitization process addressed the methods used by the adult education field to analyze its literature. Furthermore, the consensus of expert opinion resulting from the Delphi technique provided insight to this endeavor. In conclusion, the investigative questions which formed the basis for this study are listed in Table 10.

Table 10. Investigative Questions

1. Analyze the topics of the defense contract management literature base:
 - a. What is the breadth of the literature?
 - b. What are the major themes?
 - c. Which topics have been neglected and therefore, have a need for research and/or publication?
2. Describe the authors of the defense contract management literature base:
 - a. Who are the major contributors?
 - b. To which topics do they contribute?
 - c. What is their occupational background?
3. Analyze the focus of the defense contract management literature base.
4. Analyze the perspective of the defense contract management literature base.
5. Describe the evolvement of the Contract Management magazine and its areas of emphasis.

Population

For decades, the literature base of defense contract management has been developed through the publication of contributions by individuals within the field. The literature is available in many forms such as periodicals, books, theses, and dissertations. The research was limited to two publications of NCMA: the National Contract Management Journal and the Contract Management magazine.

Publication of the NCMA journal began with the spring issue of 1966. This study classified every journal article from the Spring 1966 issue through the Summer 1988 issue. The Contract Management magazine has been published monthly since July 1977. Magazine articles were classified from the July 1977 issue through the November 1988 issue. Table 11 shows that a total of 1,131 articles were reviewed. As stated previously, the literature contained in the journal and magazine reflect current thought on defense contract management issues.

Table 11. Number of Articles Reviewed

| <u>JOURNAL</u> | <u>MAGAZINE</u> | <u>COMBINED TOTAL</u> |
|----------------|-----------------|-----------------------|
| 360 | 771 | 1,131 |

Classification

Scheme. Once the investigative questions were put into final form, the next step was to classify the data. Several

classification schemes were evaluated during the review of the literature that had been used by others to classify data. These included Martin's taxonomy for procurement research, Tateyama's taxonomy for classifying official defense acquisition documents, and Park's matrix.

Each of these schemes was evaluated in terms of its applicability to this study. It was found that each scheme had been developed for a specific purpose. However, none of these purposes demonstrated applicability to this study. With this in mind, a logical classification scheme was selected for the study.

In selecting a scheme germane to this study, the main deciding factor was the audience for which the study was intended. Since defense contract management covers such a wide variety of individuals and such a broad spectrum of processes, the classification scheme had to be familiar to the entire group. As a result, the general structure of the FAR (Appendix E) was selected as the "universal" classification scheme for the defense contract management literature.

FAR Topics. The general structure of the FAR was reviewed from the subchapter to subpart level and appropriate topics were chosen to classify the literature. During the topic selection process, the FAR structure's practicability and useability for the defense contracting community was the primary concern. The intent was not to be bound by the FAR but to allow sufficient flexibility in its use so that the literature would naturally conform to the classification

scheme thus provided. The FAR topics contained in the subchapter, part, and subpart structure were not used strictly within the context of the FAR. Hence, guidance may not necessarily be found on an article's topic in the corresponding part of the FAR. The FAR topics were used in a general sense, thus allowing the subject of an article to logically belong under a given topic. The following paragraphs discuss the topics of the classification scheme used for the purposes of this study.

The FAR parts include Part 1 through Part 53 and Part 70. Parts 18, 21, 26, 40, and 41 are "reserved" for the addition of future topics. With the exception of the reserved parts, every other part was used to classify the literature. Additionally, several subpart topics were used. The following subtopics were substantive enough in the literature to warrant their distinction as topics: Source Selection (15.6), Price Negotiation (15.8), Profit (15.9), and Contractor Liability for Loss of or Damage to Property of the Government (46.8).

The literature classification scheme also included three subchapter titles as topics. The subjects of some of the articles reviewed did not "logically" belong under a part or subpart topic. Rather, the articles logically belonged under the title of a subchapter. The following subchapters were included as topics: Contracting Methods and Contract Types (C), Socioeconomic Programs (D), and Contract Management (G).

It was anticipated that some of the literature would not correspond to any of the FAR topics. As a result, "other" categories were developed to classify these additional topics. The ten "other" topics, as listed in Table 12, were arbitrarily assigned numbers to simplify the analysis process. Appendix F lists the 65 topics of the entire literature classification scheme.

Table 12. Other Topics

| <u>Number</u> | <u>Topic</u> |
|---------------|----------------------------|
| 80 | Business Environment |
| 81 | Women in Procurement |
| 82 | State/Local Contracting |
| 83 | Professionalism |
| 84 | International |
| 85 | Defense Industrial Base |
| 86 | Education |
| 87 | Research |
| 88 | History |
| 89 | Organizational Environment |

Process

The topics listed in Appendix F were used to classify the literature. Copies of each journal and magazine issue were reviewed and the following data gathered to the extent that it was provided for in each article: 1) author's name, sex, industry or government affiliation, and profession, 2) topic, 3) focus, 4) perspective, and 5) miscellaneous information such as monthly feature sections. The data was then put into a spreadsheet format. Separate spreadsheets were used to first analyze the journal and magazine

individually and then to perform a combined analysis of the data for the two publications. The results of the analysis were displayed in tables and frequency histograms which were used to answer the investigative questions and thus, to perform the analysis of the defense contract management literature base.

Investigative Question 1. Analyze the topics of the defense contract management literature base.

a. The breadth of the literature was determined by the number of articles written about each topic contained in the classification scheme.

b. An evaluation of breadth provided for the identification of the major themes of the literature. The Pareto principle was used since the "phenomenon of vital few and trivial many" has been identified by Juran as being "applicable to many fields" (11:2-17). The application of Pareto analysis to the topics' breadth established the major themes as those topics representing approximately 50 percent of the literature.

c. Topics which had been neglected in the literature demonstrated a potential need for research and/or publication of that topic. The literature's coverage of a topic was dependent upon the number of articles, if any, that discussed that topic. The application of Pareto analysis to the topics' breadth identified the neglected topics as those having one or no articles written about them in the journal, three or less articles written about them in the magazine,

and four or less articles written about them in the combined analysis of the journal and magazine.

Investigative Question 2. Describe the authors of the defense contract management literature base.

a. The major contributors were recognized by evaluating the number of articles written by each individual. The major contributors to the journal were considered as those authoring four or more articles. The authorship of eight or more articles was the criterion used for identifying the major contributors in the magazine analysis and in the combined analysis of the journal and magazine.

b. The topics on which the major contributors had written were identified by the spreadsheets and corresponding information presented in the tables.

c. The major contributors were described concerning their gender, industry/government affiliation, and professional background. This analysis was complete and accurate to the extent that this data was stated in the literature.

Investigative Question 3. Analyze the focus of the defense contract management literature base.

The focus of each article was determined by the degree to which the article was technical, human, or conceptual in nature. For the entire literature base, as well as for each topic, the percent of the literature attributed to each of the three foci was evaluated and presented in tables.

Investigative Question 4. Analyze the perspective of the defense contract management literature base.

The perspective of the literature was determined by each article's point of view in terms of being a case study, topical, theoretical, or editorial in nature. For the entire literature base, as well as for each topic, the percent of the literature attributed to each of the four perspectives was evaluated and presented in tables.

Investigative Question 5. Describe the evolvement of the Contract Management magazine and its areas of emphasis.

The magazine review unsurfaced a distinct evolvement process, i.e., changes in its areas of emphasis and monthly feature sections. This evolvement process was presented in narrative form in order to describe a representation of the evolvement of the defense contract management literature in general.

Conclusion

The descriptive research method used for this qualitative study was discussed in this chapter. The objective of this study was to systematically describe certain facts and characteristics of the literature base of the defense contract management field. This objective formed the basis for the development of the research design.

Since the literature base of defense contract management had apparently not been analyzed prior to this study, the development of a means appropriate for obtaining the desired information was required. For this reason, the Delphi

technique was used to guide and support the definitization of the investigative questions. The Delphi questioning process was also used to lend credence to the purposefulness of the study.

The research method was specifically designed so that useful information would be gleaned from the literature base. A total of 1,131 journal and magazine articles were reviewed to obtain the data. The findings of the analysis which provided answers to the five investigative questions are presented in Chapter 4.

IV. FINDINGS

Chapter Overview

Chapter 3 provided a discussion of the research method followed and topic classification for this qualitative study. The objective was to systematically describe certain characteristics of the defense contract management literature base. The research findings corresponding to each of the five investigative questions are presented in five sections within this chapter. The findings for each of the first four investigative questions are divided into three areas: 1) the findings for the National Contract Management Journal (or "journal"), 2) the findings for the Contract Management magazine (or "magazine"), and 3) the findings for the journal and magazine combined (or "combined") which provides a comprehensive review of the literature. Finally, the findings related to the fifth investigative question are discussed.

Investigative Question 1

Analyze the topics of the defense contract management literature base. What is the breadth of the literature? What are the major themes? Which topics have been neglected and therefore, have a need for research and/or publication?

The number of articles written on each topic contained in the classification scheme is shown in Table 13. The journal provided 360 articles and the magazine provided 771 articles.

Table 13. Number of Articles per Topic

| <u>JOURNAL</u> | <u>MAGAZINE</u> | <u>COMBINED</u> | <u>TOPIC</u> |
|----------------|-----------------|-----------------|--|
| 20 | 73 | 93 | Federal Acquisition Regulation System |
| 0 | 0 | 0 | Definitions of Words and Terms |
| 8 | 29 | 37 | Improper Business Practices and Personal Conflicts of Interest |
| 6 | 7 | 13 | Administrative Matters |
| 1 | 0 | 1 | Publicizing Contract Actions |
| 6 | 8 | 14 | Competition Requirements |
| 3 | 8 | 11 | Acquisition Planning |
| 1 | 2 | 3 | Required Sources of Supplies and Services |
| 2 | 12 | 14 | Contractor Qualifications |
| 2 | 11 | 13 | Specifications, Standards, and Other Purchase Descriptions |
| 0 | 6 | 6 | Acquisition and Distribution of Commercial Products |
| 4 | 11 | 15 | Contract Delivery or Performance |
| 0 | 19 | 19 | Contracting Methods and Contract Types |
| 1 | 4 | 5 | Small Purchase and Other Simplified Purchase Procedures |
| 6 | 12 | 18 | Sealed Bidding |
| 3 | 22 | 25 | Contracting by Negotiation |
| 6 | 7 | 13 | Source Selection |
| 13 | 21 | 34 | Price Negotiation |
| 12 | 6 | 18 | Profit |
| 20 | 32 | 52 | Types of Contracts |
| 1 | 3 | 4 | Special Contracting Methods |
| 6 | 2 | 8 | Socioeconomic Programs |
| 8 | 42 | 50 | Small Business and Small Disadvantaged Business Concerns |
| 0 | 1 | 1 | Labor Surplus Area Concerns |
| 2 | 2 | 4 | Application of Labor Laws to Government Acquisitions |
| 3 | 0 | 3 | Environment, Conservation, and Occupational Safety |
| 2 | 3 | 5 | Protection of Privacy and Freedom of Information |
| 1 | 11 | 12 | Foreign Acquisition |
| 7 | 15 | 22 | Patents, Data, and Copyrights |
| 0 | 1 | 1 | Bonds and Insurance |
| 2 | 2 | 4 | Taxes |
| 16 | 9 | 25 | Cost Accounting Standards |
| 31 | 26 | 57 | Contract Cost Principles and Procedures |
| 13 | 31 | 44 | Contract Financing |
| 23 | 25 | 48 | Protests, Disputes, and Appeals |
| 20 | 9 | 29 | Major System Acquisition |
| 3 | 4 | 7 | Research and Development Contracting |
| 2 | 4 | 6 | Construction and Architect-Engineer Contracts |
| 5 | 7 | 12 | Service Contracting |
| 0 | 3 | 3 | Federal Supply Schedule Contracting |
| 5 | 1 | 6 | Management, Acquisition, and Use of Information Resources |
| 2 | 5 | 7 | Contract Management |
| 4 | 21 | 25 | Contract Administration |
| 5 | 10 | 15 | Contract Modifications |
| 4 | 26 | 30 | Subcontracting Policies and Procedures |
| 4 | 7 | 11 | Government Property |
| 8 | 20 | 28 | Quality Assurance |

Table 13. Number of Articles per Topic (continued)

| <u>JOURNAL</u> | <u>MAGAZINE</u> | <u>COMBINED</u> | <u>TOPIC</u> |
|----------------|-----------------|-----------------|--|
| 2 | 7 | 9 | Contractor Liability for Loss of or Damage to Property of the Government |
| 0 | 1 | 1 | Transportation |
| 1 | 6 | 7 | Value Engineering |
| 7 | 14 | 21 | Termination of Contracts |
| 1 | 1 | 2 | Extraordinary Contractual Actions |
| 0 | 0 | 0 | Use of Government Sources by Contractors |
| 0 | 5 | 5 | Solicitation Provisions and Contract Clauses |
| 0 | 3 | 3 | Forms |
| 1 | 11 | 12 | Acquisition of Computer Resources |
| 13 | 12 | 25 | Business Environment |
| 0 | 9 | 9 | Women in Procurement |
| 3 | 6 | 9 | State/Local Contracting |
| 10 | 44 | 54 | Professionalism |
| 12 | 17 | 29 | International |
| 2 | 5 | 7 | Defense Industrial Base |
| 3 | 13 | 16 | Education |
| 6 | 7 | 13 | Research |
| 2 | 8 | 10 | History |
| 6 | 22 | 28 | Organizational Environment |

Analysis of the Journal. The breadth of the literature was determined by the number of articles written about each topic contained in the classification scheme. Analysis of Table 13 showed that the breadth of the journal literature was wide-ranging, with 0 to 31 articles written for each topic area.

An evaluation of breadth provided for the identification of the major themes and neglected areas of the journal literature. The major themes are set forth in Figure 6 using Pareto analysis. Of the 360 journal articles reviewed, 193 articles were written on 11 of the 65 topics. Thus, 53.6 percent of the literature reviewed was represented by only 16.9 percent of the topics contained in the classification

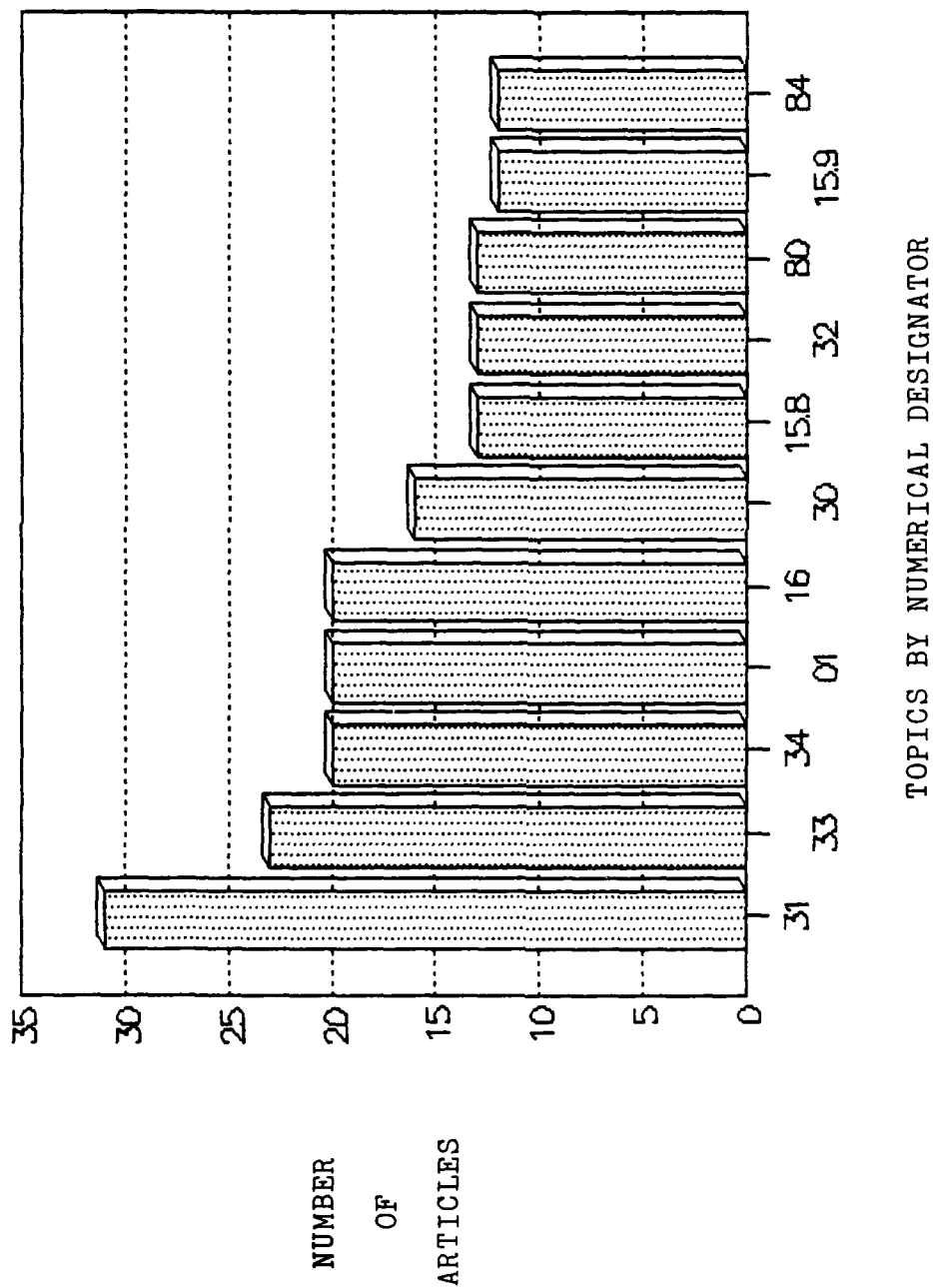


Figure 6. Pareto Analysis: Major Themes - Journal

scheme. Table 14 details the major themes, the number of articles written on them, and the percent of the literature which they represent. The "topic number designator and topic" column in Table 14 provides a means of interpreting the X-axis in Figure 6. It is interesting to note that topics related to money have received the most attention in the journal literature.

Table 14. Major Themes - Journal

| <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> | <u>CUMULATIVE PERCENT</u> | <u>TOPIC NUMBER DESIGNATOR AND TOPIC</u> |
|-----------------------------------|--------------------------------------|-------------------------------|--|
| 31 | 8.61 | 8.61 | 31 Contract Cost Principles and Procedures |
| 23 | 6.39 | 15.00 | 33 Protests, Disputes, and Appeals |
| 20 | 5.56 | 20.56 | 16 Types of Contracts |
| 20 | 5.56 | 26.12 | 1 Federal Acquisition Regulation System |
| 20 | 5.56 | 31.68 | 34 Major System Acquisition |
| 16 | 4.44 | 36.12 | 30 Cost Accounting Standards |
| 13 | 3.61 | 39.73 | 80 Business Environment |
| 13 | 3.61 | 43.34 | 32 Contract Financing |
| 13 | 3.61 | 46.95 | 15.8 Price Negotiation |
| 12 | 3.33 | 50.28 | 84 International |
| 12 | 3.33 | 53.61 | 15.9 Profit |

Conversely, the neglected topics of the literature were identified as those having one or no articles written about them. Figure 7 illustrates the neglected topics using Pareto analysis. The findings revealed that 19 of the 65 topics (29.23 percent) were represented by only 8 journal articles (2.22 percent). Therefore, 19 topics in the classification scheme demonstrated a potential need for research and/or publication. Table 15 details the neglected topics and

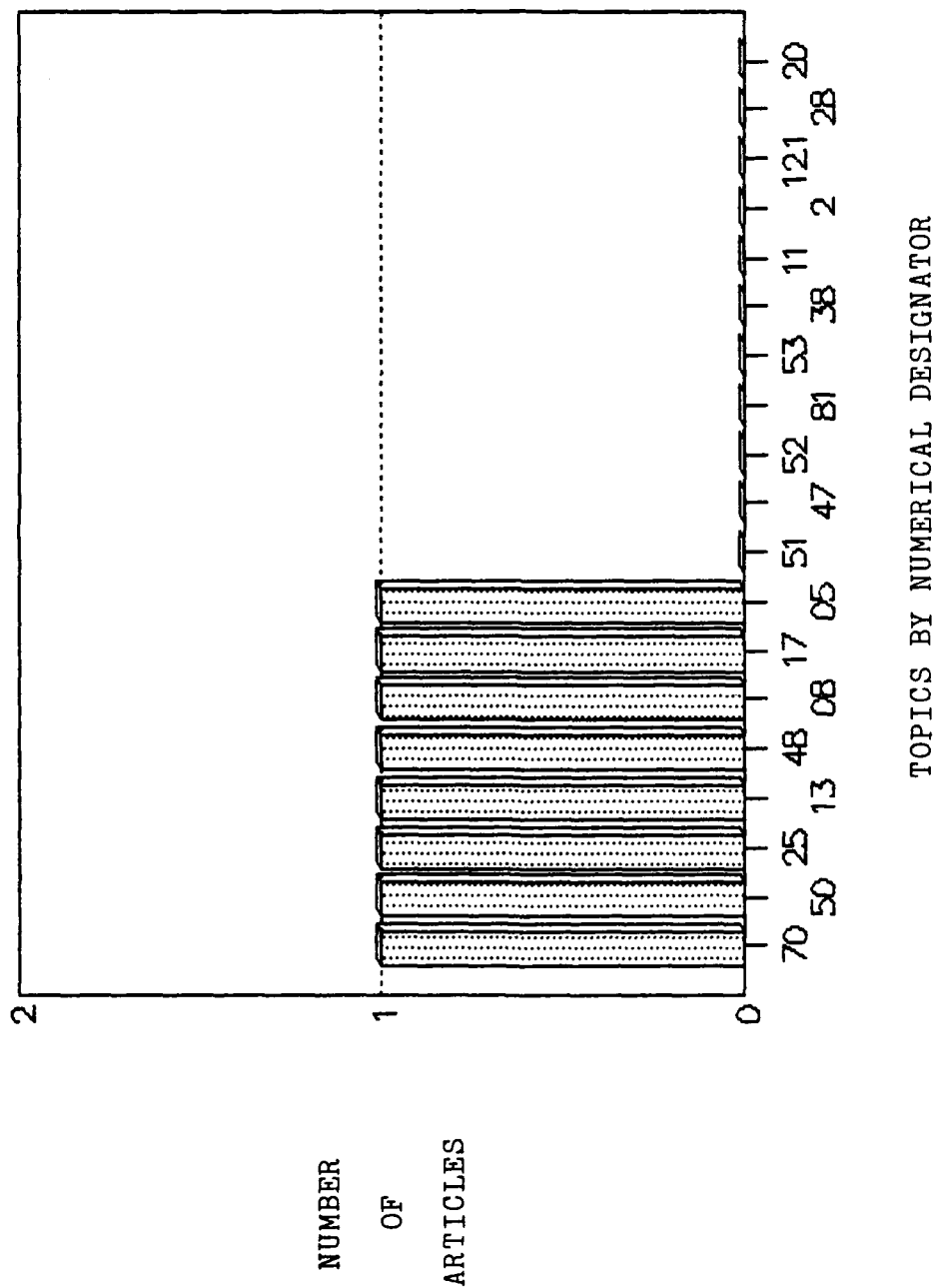


Figure 7. Pareto Analysis: Neglected Topics - Journal

Table 15. Neglected Topics - Journal

| <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> | <u>CUMULATIVE PERCENT</u> | <u>TOPIC NUMBER DESIGNATOR AND TOPIC</u> |
|-----------------------------------|--------------------------------------|-------------------------------|--|
| 0 | 0.00 | 0.00 | 2 Definitions of Words and Terms |
| 0 | 0.00 | 0.00 | 11 Acquisition and Distribution of Commercial Products |
| 0 | 0.00 | 0.00 | C Contracting Methods and Contract Types |
| 0 | 0.00 | 0.00 | 20 Labor Surplus Area Concerns |
| 0 | 0.00 | 0.00 | 28 Bonds and Insurance |
| 0 | 0.00 | 0.00 | 38 Federal Supply Schedule Contracting |
| 0 | 0.00 | 0.00 | 47 Transportation |
| 0 | 0.00 | 0.00 | 51 Use of Government Sources by Contractors |
| 0 | 0.00 | 0.00 | 52 Solicitation Provisions and Contract Clauses |
| 0 | 0.00 | 0.00 | 53 Forms |
| 0 | 0.00 | 0.00 | 81 Women in Procurement |
| 1 | 0.28 | 0.28 | 8 Required Sources of Supplies and Services |
| 1 | 0.28 | 0.56 | 48 Value Engineering |
| 1 | 0.28 | 0.84 | 5 Publicizing Contract Actions |
| 1 | 0.28 | 1.12 | 17 Special Contracting Methods |
| 1 | 0.28 | 1.40 | 50 Extraordinary Contractual Actions |
| 1 | 0.28 | 1.68 | 70 Acquisition of Computer Resources |
| 1 | 0.28 | 1.96 | 13 Small Purchase and Other Simplified Purchase Procedures |
| 1 | 0.28 | 2.24 | 25 Foreign Acquisition |

Indicates that the journal literature has not addressed such topics as Women in Procurement, Bonds and Insurance, and Transportation.

Analysis of the Magazine. The breadth of the literature contained in the magazine was determined by the number of articles written about each topic contained in the classification scheme. Table 13 shows that the breadth ranged from 0 to 73 articles written for each topic area.

An evaluation of breadth provided for the identification of the major themes and neglected areas of the magazine literature. The major themes are identified in Figure 8, again using Pareto analysis to show that of the 771

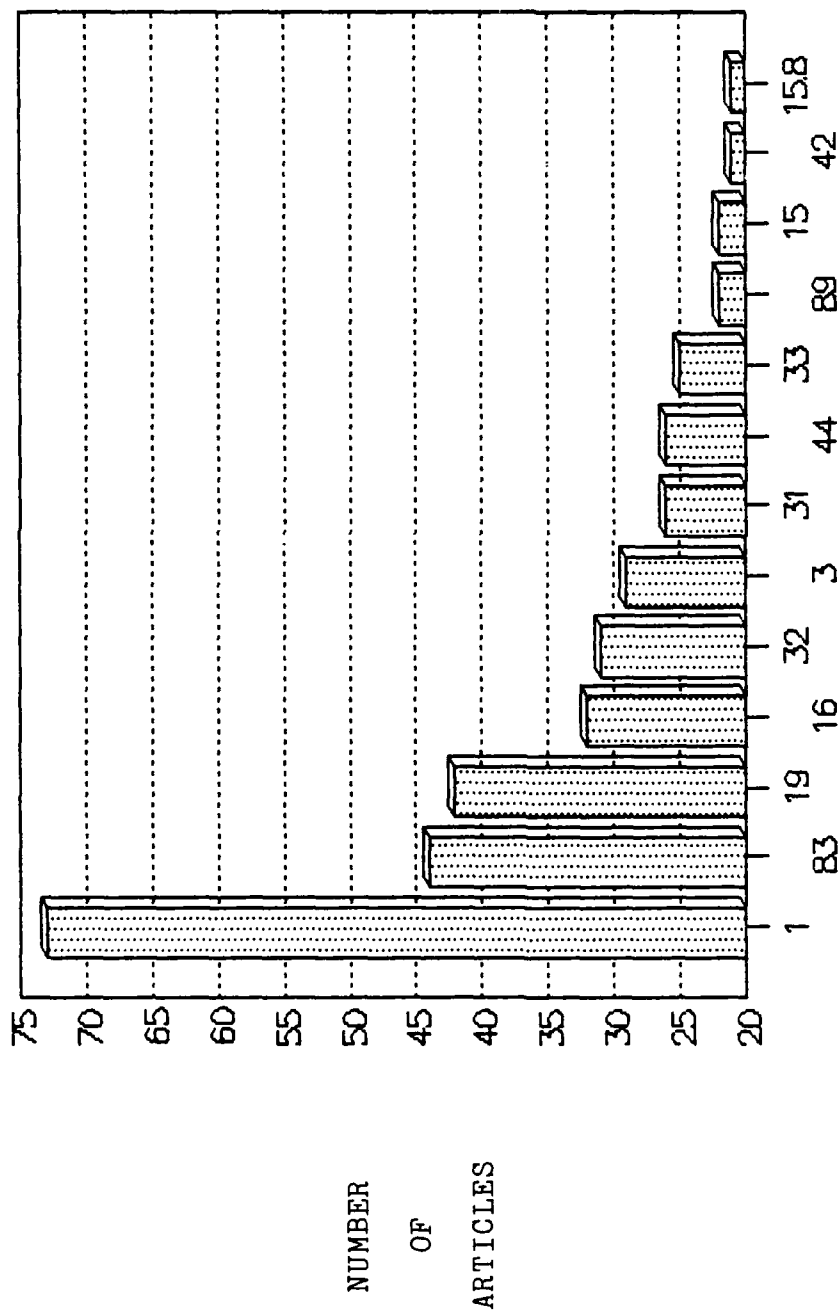


Figure 8. Pareto Analysis: Major Themes - Magazine

magazine articles reviewed, 414 were written on 13 of the 65 topics. Hence, 53.7 percent of the magazine literature was represented by 20 percent of the classification scheme topics. Table 16 details the major themes, the number of articles written on them, and the percent of the literature which they represent. The "topic number designator and topic" column in Table 16 can be used to interpret the X-axis in Figure 8. The major themes revealed by the magazine articles included some of the same financial topics identified by the journal. However, the magazine literature appeared to emphasize topics of an ethical nature such as Professionalism and Improper Business Practices and Personal Conflicts of Interest.

Table 16. Major Themes - Magazine

| <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> | <u>CUMULATIVE PERCENT</u> | <u>TOPIC NUMBER DESIGNATOR AND TOPIC</u> |
|-----------------------------------|--------------------------------------|-------------------------------|---|
| 73 | 9.47 | 9.47 | 1 Federal Acquisition Regulation System |
| 44 | 5.71 | 15.18 | 83 Professionalism |
| 42 | 5.45 | 20.63 | 19 Small Business and Small Disadvantaged Business Concerns |
| 32 | 4.15 | 24.78 | 16 Types of Contracts |
| 31 | 4.02 | 28.80 | 32 Contract Financing |
| 29 | 3.76 | 32.56 | 3 Improper Business Practices and Personal Conflicts of Interest |
| 26 | 3.37 | 35.93 | 44 Subcontracting Policies and Procedures |
| 26 | 3.37 | 39.30 | 31 Contract Cost Principles and Procedures |
| 25 | 3.24 | 42.54 | 33 Protests, Disputes, and Appeals |
| 22 | 2.85 | 45.39 | 89 Organizational Environment |
| 22 | 2.85 | 48.24 | 15 Contracting by Negotiation |
| 21 | 2.72 | 50.96 | 15.8 Price Negotiation |
| 21 | 2.72 | 53.68 | 42 Contract Administration |

The neglected topics were designated as those having three or less articles written about them. Figure 9 depicts the neglected topics using Pareto analysis. The findings showed that 17 of the 65 topics (26.15 percent) were represented by only 25 magazine articles (3.24 percent). These 17 topics demonstrated a potential need for research and/or publication in these areas. Table 17 lists the neglected topics and suggests that areas pertaining to labor laws and socioeconomic programs have not been adequately covered by the defense contract management literature contained in the magazine.

Table 17. Neglected Topics - Magazine

| <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> | <u>CUMULATIVE PERCENT</u> | <u>TOPIC NUMBER DESIGNATOR AND TOPIC</u> |
|-----------------------------------|--------------------------------------|-------------------------------|--|
| 0 | 0.00 | 0.00 | 2 Definitions of Words and Terms |
| 0 | 0.00 | 0.00 | 5 Publicizing Contract Actions |
| 0 | 0.00 | 0.00 | 23 Environment, Conservation, and Occupational Safety |
| 0 | 0.00 | 0.00 | 51 Use of Government Sources by Contractors |
| 1 | 0.13 | 0.13 | 47 Transportation |
| 1 | 0.13 | 0.26 | 50 Extraordinary Contractual Actions |
| 1 | 0.13 | 0.39 | 20 Labor Surplus Area Concerns |
| 1 | 0.13 | 0.52 | 39 Management, Acquisition, and Use of Information Resources |
| 1 | 0.13 | 0.65 | 28 Bonds and Insurance |
| 2 | 0.26 | 0.91 | 8 Required Sources of Supplies and Services |
| 2 | 0.26 | 1.17 | 22 Application of Labor Laws to Government Acquisitions |
| 2 | 0.26 | 1.43 | 17.1 Socioeconomic Programs |
| 2 | 0.26 | 1.69 | 29 Taxes |
| 3 | 0.39 | 2.08 | 53 Forms |
| 3 | 0.39 | 2.47 | 17 Special Contracting Methods |
| 3 | 0.39 | 2.86 | 38 Federal Supply Schedule Contracting |
| 3 | 0.39 | 3.25 | 24 Protection of Privacy and Freedom of Information |

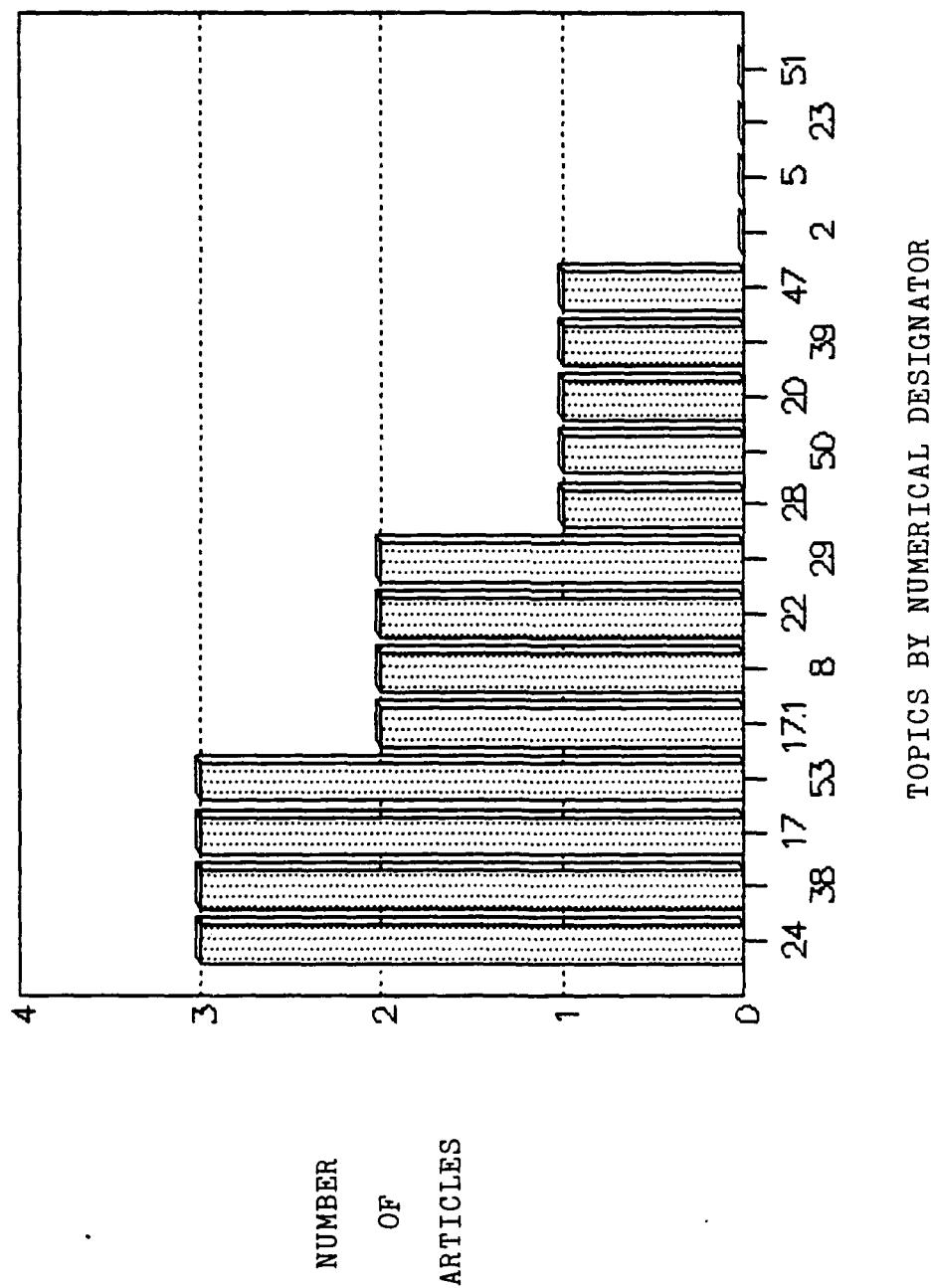


Figure 9. Pareto Analysis: Neglected Topics - Magazine

Combined Analysis. A comprehensive analysis of the journal and magazine (see Table 13) showed that the breadth of the overall defense contract management literature base was quite diverse, with only two of the topics in the classification scheme receiving no attention. The combined topic findings are presented in the same manner as the individual journal and magazine findings were presented.

Accordingly, breadth provided the basis for the identification of the major themes and neglected areas of the defense contract management literature base. The Pareto analysis in Figure 10 shows the frequency of the major themes. Of the 1,131 articles reviewed, 613 articles (or 54.2 percent) dealt with 14 of the 65 topics. Table 18 specifies the 14 major themes and includes the topic number designators to provide a means of interpreting the X-axis in Figure 10. Comprehensively, the major themes which emerged from the literature primarily pertained to money/cost issues. However, the most popular topic occurring in the literature was the Federal Acquisition Regulation System. Since this topic includes a large number of articles concerning procurement reform and the regulations and policies governing the defense acquisition process, it seems appropriate that it received the most attention in the literature. The second and third most prevalent topics were Contract Cost Principles and Procedures and Professionalism, respectively. Topics dealing with international issues and quality assurance were also recognized as major themes in the literature.

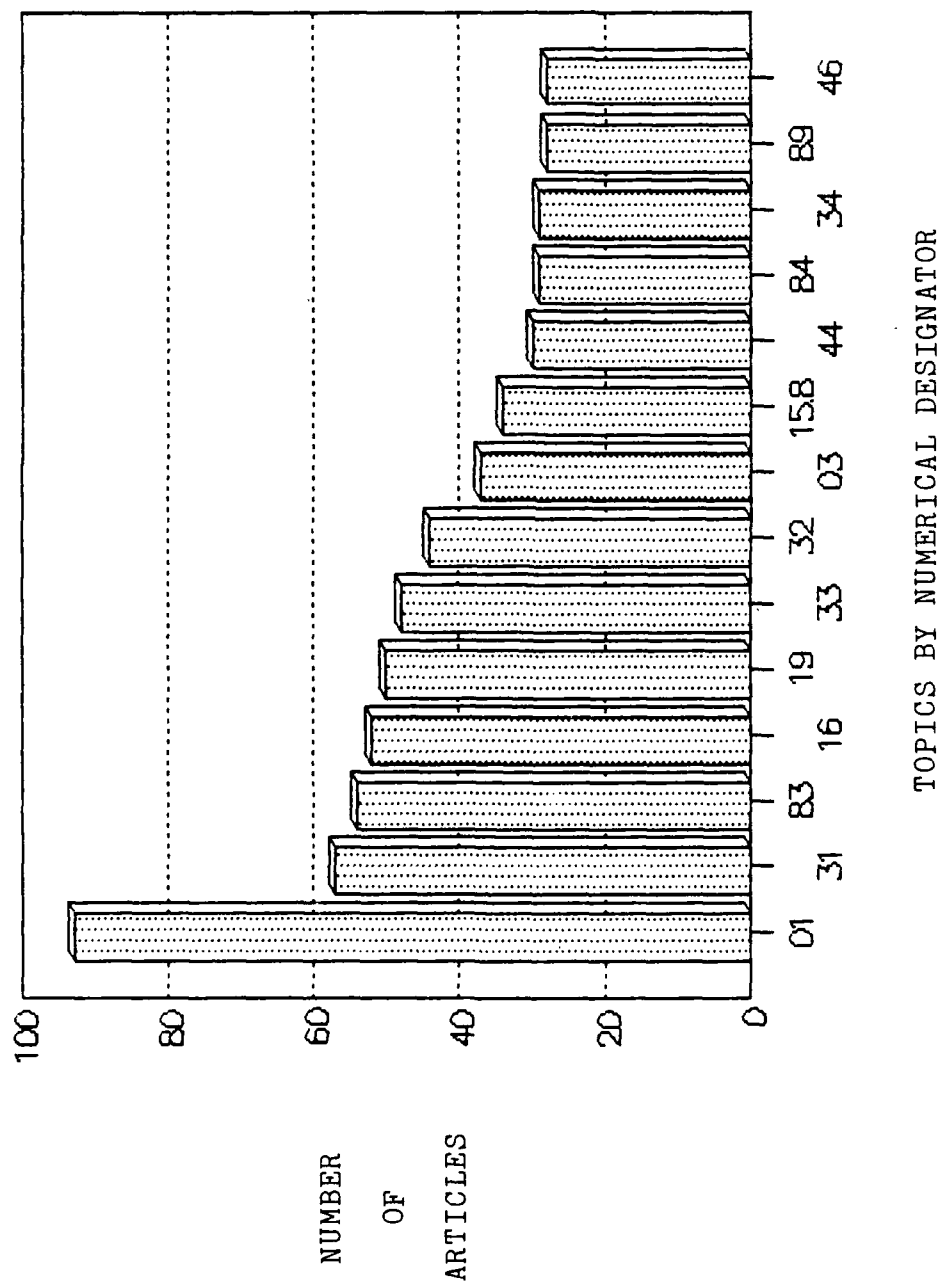


Figure 10. Pareto Analysis: Major Themes - Combined

Table 18. Major Themes - Combined

| <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> | <u>CUMULATIVE PERCENT</u> | <u>TOPIC NUMBER DESIGNATOR AND TOPIC</u> |
|-----------------------------------|--------------------------------------|-------------------------------|---|
| 93 | 8.22 | 8.22 | 1 Federal Acquisition Regulation System |
| 57 | 5.04 | 13.26 | 31 Contract Cost Principles and Procedures |
| 54 | 4.77 | 18.04 | 83 Professionalism |
| 52 | 4.60 | 22.63 | 16 Types of Contracts |
| 50 | 4.42 | 27.06 | 19 Small Business and Small Disadvantaged Business Concerns |
| 48 | 4.24 | 31.30 | 33 Protests, Disputes, and Appeals |
| 44 | 3.89 | 35.19 | 32 Contract Financing |
| 37 | 3.27 | 38.46 | 3 Improper Business Practices and Personal Conflicts of Interest |
| 34 | 3.01 | 41.47 | 15.8 Price Negotiation |
| 30 | 2.65 | 44.12 | 44 Subcontracting Policies and Procedures |
| 29 | 2.56 | 46.68 | 84 International |
| 29 | 2.56 | 49.25 | 34 Major System Acquisition |
| 28 | 2.48 | 51.72 | 89 Organizational Environment |
| 28 | 2.48 | 54.20 | 46 Quality Assurance |

The neglected topics were identified as those having four or less articles. Figure 11 is the resulting bar graph of the Pareto analysis for the 14 neglected topics. Only 30 of the 1,131 articles reviewed dealt with these topics. Table 19 provides a detailed listing as well as the topic number designators for interpreting the X-axis in Figure 11. Definitions of Words and Terms and Use of Government Sources by Contractors were noted as having no articles written on them in the literature that was reviewed. Other neglected topics which demonstrated a need for research and/or publication based on the findings included: Bonds and Insurance, Labor Surplus Area Concerns, Environment, Conservation, and Occupational Safety, and Application of

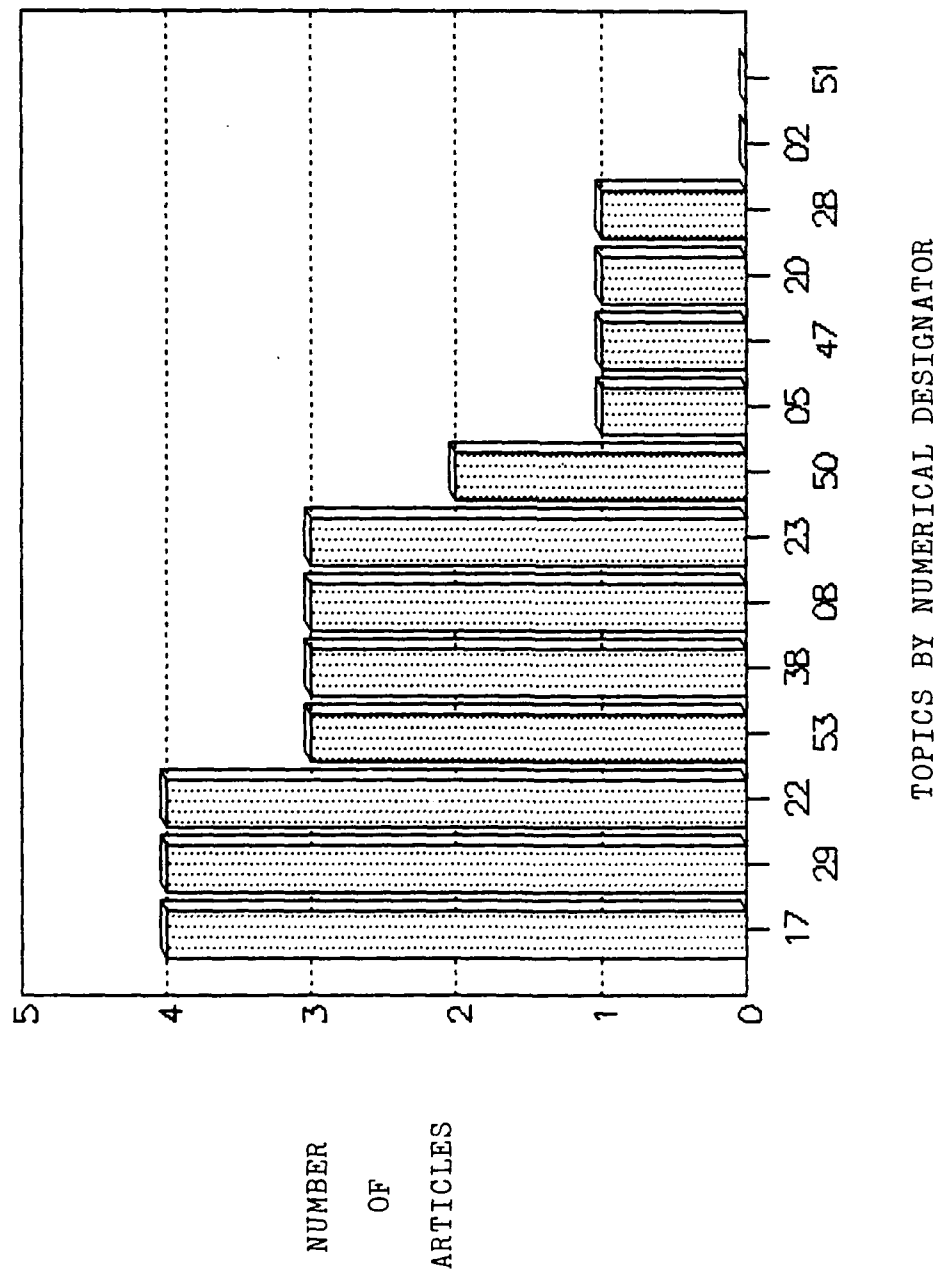


Figure 11. Pareto Analysis: Neglected Topics - Combined

Table 19. Neglected Topics - Combined

| NUMBER OF ARTICLES | PERCENT OF LITERATURE | CUMULATIVE PERCENT | TOPIC NUMBER DESIGNATOR AND TOPIC |
|--------------------------|-----------------------------|-----------------------|--|
| 0 | 0.00 | 0.00 | 51 Use of Government Sources by Contractors |
| 0 | 0.00 | 0.00 | 2 Definitions of Words and Terms |
| 1 | 0.09 | 0.09 | 28 Bonds and Insurance |
| 1 | 0.09 | 0.18 | 20 Labor Surplus Area Concerns |
| 1 | 0.09 | 0.27 | 47 Transportation |
| 1 | 0.09 | 0.36 | 5 Publicizing Contract Actions |
| 2 | 0.18 | 0.54 | 50 Extraordinary Contractual Actions |
| 3 | 0.27 | 0.81 | 23 Environment, Conservation, and Occupational Safety |
| 3 | 0.27 | 1.08 | 8 Required Sources of Supplies and Services |
| 3 | 0.27 | 1.35 | 38 Federal Supply Schedule Contracting |
| 3 | 0.27 | 1.62 | 53 Forms |
| 4 | 0.35 | 1.97 | 22 Application of Labor Laws to Government Acquisitions |
| 4 | 0.35 | 2.32 | 29 Taxes |
| 4 | 0.35 | 2.67 | 17 Special Contracting Methods |

Labor Laws to Government Acquisitions. Considering the public's interest in defense pricing and the corresponding emphasis on competition, it was interesting to note that only one article addressed the topic Publicizing Contractual Actions.

Investigative Question 2

Describe the authors of the defense contract management literature base. Who are the major contributors? To which topics do they contribute? What is their occupational background? The findings related to this investigative question are accurate and complete to the extent that this data was provided in the literature.

Analysis of the Journal. For the 360 journal articles reviewed, there were 333 contributing authors. These 333 authors consisted of 312 males, 17 females, and 4 organizational authors. Of the four organizations, three were industry groups and one was a government agency. The major contributors to the journal were recognized as those authoring four or more articles. The female authors each wrote one article; consequently, no female authors were recognized as major contributors to the journal.

Table 20 lists the eight major contributors, their occupational backgrounds, and the topics to which they contributed. These authors represented 2.4 percent of the total author population and the 44 articles written by these individuals represented 12.2 percent of the journal literature. The major contributors consisted of four industry attorneys, three government employees, and one individual that had been an attorney for both government and industry.

Analysis of the Magazine. A total of 443 authors contributed to the 771 magazine articles reviewed for this study. This group of authors consisted of 3 organizations, 396 males, and 44 females. The organizations included two government agencies and the National Contract Management Association (NCMA) staff. The NCMA staff articles were primarily reports on current events in the defense contract management community. The major contributors to the magazine were recognized as those authoring eight or more articles. Although several of the female authors had written three

Table 20. Major Contributors - Journal

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|---|--|-------------------------------|
| Kenneth M. Jackson Industry Attorney | Federal Acquisition Regulation System (1) Types of Contracts (1) Cost Accounting Standards (1) Contract Cost Principles and Procedures (3) Protests, Disputes, and Appeals (2) | 8 |
| William J. Spriggs Industry Attorney | Specifications, Standards, and Other Purchase Descriptions (1) Taxes (1) Contract Financing (1) Protests, Disputes, and Appeals (2) Contract Administration (1) Contract Modifications (1) Quality Assurance (1) | 8 |
| Joseph L. Hood Government | Federal Acquisition Regulation System (1) Types of Contracts (1) Education (2) Research (1) | 5 |
| R.J. Lorette Government | Small Business and Small Disadvantaged Business Concerns (1) Major System Acquisition (3) Research (1) | 5 |
| Jeffrey L. Michelman Industry Attorney | Federal Acquisition Regulation System (1) Sealed Bidding (1) Patents, Data, and Copyrights (1) Quality Assurance (1) International (1) | 5 |
| Jack E. Simon Government | Environment, Conservation, and Occupational Safety (1) Cost Accounting Standards (2) Government Property (1) Business Environment (1) | 5 |
| ** Alan Dickson Government Industry Attorney | Government Property (1) Termination of Contracts (1) History (2) | 4 |
| Matthew J. Travers Industry Attorney | Improper Business Practices and Personal Conflicts of Interest (2) International (2) | 4 |

** Alan Dickson was a Government attorney when he wrote the Government Property article and an Industry attorney when he wrote the Termination of Contracts and History articles.

articles, none had sufficient authorship for recognition as a major contributor.

Table 21 lists the 11 major contributors, their occupational backgrounds, and the topics to which they contributed. The major contributors represented 2.5 percent of the total author population and the 260 articles written by these individuals represented 33.7 percent of the magazine literature. Of the major contributors, nine were from industry and two had a government background. The author background data provided with the articles further indicated that six of the major contributors were attorneys.

Robert Witte authored many more articles than the other major contributors. This was a result of his authorship of "Case Commentary" which started in November 1977 as one of the magazine's monthly feature sections. Several of the other authors could also attribute their recognition as a major contributor to their authorship of a monthly feature section in the magazine. This is specifically addressed in the findings for the fifth investigative question.

Table 21. Major Contributors - Magazine

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|-------------------------------|--|-------------------------------|
| ** Robert D. Witte | Contract Cost Principles and Procedures (12) | 113 |
| Industry | Contract Financing (12) | |
| Attorney | Termination of Contracts (11) | |

** Robert Witte's articles often addressed several topics. His list provides an approximation of the number of times he enumerated on these topics.

Table 21. Major Contributors - Magazine (continued)

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|--|---|-------------------------------|
| Robert D. Witte Industry Attorney (continued) | Sealed Bidding (9) Protests, Disputes, and Appeals (8) Specifications, Standards, and Other Purchase Descriptions (7) Improper Business Practices and Personal Conflicts of Interest (7) Quality Assurance (7) Contract Delivery or Performance (6) Price Negotiation (4) Small Business and Small Disadvantaged Business Concerns (3) Contract Modifications (3) Contractor Qualifications (3) Source Selection (2) Types of Contracts (2) Foreign Acquisition (2) Value Engineering (2) Federal Acquisition Regulation System (1) Construction and Architect-Engineer Contracts (1) Administrative Matters (1) Contracting Methods and Contract Types (1) Contracting by Negotiation (1) Special Contracting Methods (1) Patents, Data, and Copyrights (1) Contract Administration (1) Subcontracting Policies and Procedures (1) Government Property (1) Acquisition of Computer Resources (1) Business Environment (1) | 113 |
| Richard A. Moody Government | Types of Contracts (10) Contract Cost Principles and Procedures (3) Source Selection (2) Price Negotiation (2) Service Contracting (2) Contract Modifications (2) Quality Assurance (2) Acquisition of Computer Resources (2) Contracting by Negotiation (1) Contract Financing (1) Termination of Contracts (1) Acquisition Planning (1) | 29 |
| William A. Ufford Industry | Professionalism (4) Contracting Methods and Contract Types (3) Types of Contracts (2) Administrative Matters (2) Federal Acquisition Regulation System (1) Contracting by Negotiation (1) | 22 |

Table 21. Major Contributors - Magazine (continued)

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|--|--|-------------------------------|
| William A. Ufford Industry (continued) | Patents, Data, and Copyrights (1) Improper Business Practices and Personal Conflicts of Interest (1) Contract Cost Principles and Procedures (1) Contract Financing (1) Federal Supply Schedule Contracting (1) Contract Administration (1) Contract Modifications (1) Government Property (1) Acquisition Planning (1) | 22 |
| John T. Grablewski Government Attorney | Contract Cost Principles and Procedures (3) Contract Modifications (2) Quality Assurance (2) Acquisition of Computer Resources (2) Contracting by Negotiation (1) Source Selection (1) Price Negotiation (1) Types of Contracts (1) Contract Financing (1) Service Contracting (1) Termination of Contracts (1) Acquisition Planning (1) | 17 |
| ** James P. Gallatin Industry Attorney | Patents, Data, and Copyrights (2) Foreign Acquisition (1) Federal Acquisition Regulation System (1) Specifications, Standards, and Other Purchase Descriptions (1) | 15 |
| Bruce S. Ramo Industry Attorney | Small Purchase and Other Simplified Purchase Procedures (1) Improper Business Practices and Personal Conflicts of Interest (1) Contract Cost Principles and Procedures (1) Contract Financing (1) Protests, Disputes, and Appeals (1) Contract Modifications (1) Forms (1) International (1) Contractor Qualifications (1) Contracting Methods and Contract Types (1) | |
| Calvin Brusman Industry | Subcontracting Policies and Procedures (10) Price Negotiation (1) Profit (1) Improper Business Practices and Personal Conflicts of Interest (1) Contractor Qualifications (1) | 14 |

** John Grablewski and James Gallatin co-authored their articles.

Table 21. Major Contributors - Magazine (continued)

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|--|---|-------------------------------|
| Corey M. Rindner Industry | Contract Administration (2) Contracting by Negotiation (2) Types of Contracts (2) Government Property (1) Termination of Contracts (1) Solicitation Provisions and Contract Clauses (1) Business Environment (1) | 10 |
| O.S. Hiestand Industry Attorney | Federal Acquisition Regulation System (4) State/Local Contracting (2) Extraordinary Contractual Actions (1) Organizational Environment (1) Contractor Liability for Loss of or Damage to Property of the Government (1) | 9 |
| C.M. Culver Industry | History (8) | 8 |
| Kenneth M. Jackson Industry Attorney | Quality Assurance (3) Federal Acquisition Regulation System (1) Cost Accounting Standards (1) Improper Business Practices and Personal Conflicts of Interest (1) Patents, Data, and Copyrights (1) Contractor Liability for Loss of or Damage to Property of the Government (1) | 8 |

Combined Analysis. A comprehensive analysis of the journal and magazine provided recognition of the major contributors to the defense contract management literature base as a whole. A total of 718 authors contributed to the 1,131 articles reviewed. Of these 718 authors, 64 had publications in both the journal and magazine. The total author group was made up of 7 organizations (as described by the journal and magazine findings), 651 males, and 60 females. The occupational background of the authors was

stated in the literature for all but 11 authors. Excluding the authors with the unknown backgrounds and the 7 "organization" authors, 46.3 percent of the authors were from industry, 50.3 percent were from the government, and 3.4 percent had both an industry and government background.

The major contributors to the defense contract management literature were recognized as those authoring eight or more articles. Regardless of the fact that none of the female authors fell into this category, it was deemed worthwhile to recognize those female authors which had contributed the most significantly within their own group. For this purpose, the major female contributors were considered as those having authored two or more articles.

Table 22 is a listing of the 14 major contributors to the entire literature base, their occupational backgrounds, and the topics to which they contributed. With the exception of Dale E. McNabb, these individuals were each recognized as a major contributor by the journal and/or magazine findings. Only one individual was recognized as a major contributor by both the journal and magazine - Kenneth M. Jackson.

The major contributors represented 1.95 percent of the total author population and the 293 articles written by these individuals represented 25.9 percent of the entire literature reviewed. Table 22 shows that 11 of the 14 major contributors had an industry background and that 8 of the major contributors were attorneys.

Table 22. Major Contributors - Combined

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|--|---|-------------------------------|
| ** Robert D. Witte Industry Attorney | Contract Cost Principles and Procedures (12) Contract Financing (12) Termination of Contracts (11) Sealed Bidding (9) Protests, Disputes, and Appeals (8) Specifications, Standards, and Other Purchase Descriptions (7) Improper Business Practices and Personal Conflicts of Interest (7) Quality Assurance (7) Contract Delivery or Performance (6) Price Negotiation (4) Small Business and Small Disadvantaged Business Concerns (3) Contract Modifications (3) Contractor Qualifications (3) Source Selection (2) Types of Contracts (2) Foreign Acquisition (2) Value Engineering (2) Federal Acquisition Regulation System (1) Construction and Architect-Engineer Contracts (1) Administrative Matters (1) Contracting Methods and Contract Types (1) Contracting by Negotiation (1) Special Contracting Methods (1) Patents, Data, and Copyrights (1) Contract Administration (1) Subcontracting Policies and Procedures (1) Government Property (1) Acquisition of Computer Resources (1) Business Environment (1) | 113 |
| Richard A. Moody Government | Types of Contracts (10) Contract Cost Principles and Procedures (3) Source Selection (2) Price Negotiation (2) Service Contracting (2) Contract Modifications (2) Quality Assurance (2) Acquisition of Computer Resources (2) Contracting by Negotiation (1) Contract Financing (1) Termination of Contracts (1) Acquisition Planning (1) | 29 |

** Robert Witte's articles often addressed several topics. His list provides an approximation of the number of times he enumerated on these topics.

Table 22. Major Contributors - Combined (Continued)

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|---|---|-------------------------------|
| William A. Ufford Industry | Professionalism (4) Contracting Methods and Contract Types (3) Types of Contracts (2) Administrative Matters (2) Federal Acquisition Regulation System (1) Contracting by Negotiation (1) Patents, Data, and Copyrights (1) Improper Business Practices and Personal Conflicts of Interest (1) Contract Cost Principles and Procedures (1) Contract Financing (1) Federal Supply Schedule Contracting (1) Contract Administration (1) Contract Modifications (1) Government Property (1) Acquisition Planning (1) | 22 |
| John T. Grablewski Government Attorney | Contract Cost Principles and Procedures (3) Contract Modifications (2) Quality Assurance (2) Acquisition of Computer Resources (2) Contracting by Negotiation (1) Source Selection (1) Price Negotiation (1) Types of Contracts (1) Contract Financing (1) Service Contracting (1) Termination of Contracts (1) Acquisition Planning (1) | 17 |
| Kenneth M. Jackson Industry Attorney | Quality Assurance (3) Federal Acquisition Regulation System (2) Contract Cost Principles and Procedures (3) Cost Accounting Standards (2) Protests, Disputes, and Appeals (2) Improper Business Practices and Personal Conflicts of Interest (1) Types of Contracts (1) Patents, Data, and Copyrights (1) Contractor Liability for Loss of or Damage to Property of the Government (1) | 16 |
| ** James P. Gallatin Bruce S. Ramo Industry Attorney | Patents, Data, and Copyrights (2) Foreign Acquisition (1) Federal Acquisition Regulation System (1) Specifications, Standards, and Other Purchase Descriptions (1) | 15 |

** John Grablewski and James Gallatin co-authored their articles.

Table 22. Major Contributors - Combined (Continued)

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|---|--|-------------------------------|
| James P. Gallatin Bruce S. Ramo (continued) | Small Purchase and Other Simplified Purchase Procedures (1) Improper Business Practices and Personal Conflicts of Interest (1) Contract Cost Principles and Procedures (1) Contract Financing (1) Protests, Disputes, and Appeals (1) Contract Modifications (1) Forms (1) International (1) Contractor Qualifications (1) Contracting Methods and Contract Types (1) | |
| Calvin Brusman Industry | Subcontracting Policies and Procedures (10) Price Negotiation (1) Profit (1) Improper Business Practices and Personal Conflicts of Interest (1) Contractor Qualifications (1) | 14 |
| Corey M. Rindner Industry | Contract Administration (2) Contracting by Negotiation (2) Types of Contracts (2) Government Property (1) Termination of Contracts (1) Solicitation Provisions and Contract Clauses (1) Business Environment (1) | 10 |
| William J. Spriggs Industry Attorney | Contract Financing (2) Protests, Disputes, and Appeals (2) Specifications, Standards, and Other Purchase Descriptions (1) Taxes (1) Contract Administration (1) Contract Modifications (1) Quality Assurance (1) | 9 |
| O.S. Hiestand Industry Attorney | Federal Acquisition Regulation System (4) State/Local Contracting (2) Extraordinary Contractual Actions (1) Organizational Environment (1) Contractor Liability for Loss of or Damage to Property of the Government (1) | 9 |
| C.M. Culver Industry | History (8) | 8 |

Table 22. Major Contributors - Combined (Continued)

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|--|--|-------------------------------|
| Jeffrey L. Michelman Industry Attorney | Patents, Data, and Copyrights (2) Federal Acquisition Regulation System (1) Sealed Bidding (1) Quality Assurance (1) International (1) Professionalism (1) Education (1) | 8 |
| Dale E. McNabb Government | Socioeconomic Programs (3) Acquisition of Computer Resources (2) Federal Acquisition Regulation System (1) Contracting by Negotiation (1) Quality Assurance (1) | 8 |

The major female contributors are identified in Table 23. The literature did not provide Sara Glenn's background; however, all of the other female authors had government backgrounds. The major female contributors published only 1.6 percent of the literature as compared to the major male authors' contribution of 25.9 percent. The literature analysis revealed that most of the articles written by female authors were published in the past five years.

Investigative Question 3

Analyze the focus of the defense contract management literature base.

Analysis of the Journal. The focus of each article was determined by the degree to which the article was technical, human, or conceptual in nature. A summary of the findings concerning the focus of the journal articles is in Table 24.

Table 23. Major Contributors - Females

| <u>AUTHOR/ BACKGROUND</u> | <u>TOPICS (NO. OF ARTICLES PER TOPIC)</u> | <u>TOTAL CONTRIBUTION</u> |
|------------------------------------|---|-------------------------------|
| Susan Brechbill Government | Federal Acquisition Regulation System (1) Contracting by Negotiation (1) Women in Procurement (1) | 3 |
| Mary Ann Gilleece Government | Federal Acquisition Regulation System (2) Organizational Environment (1) | 3 |
| Karen Williams Government | Federal Acquisition Regulation System (1) Women in Procurement (1) | 2 |
| Michelle Kalkowski Government | Federal Acquisition Regulation System (1) Professionalism (1) | 2 |
| Colleen Preston Government | Federal Acquisition Regulation System (1) Competition Requirements (1) | 2 |
| Hilary J. Rauch Government | Professionalism (2) | 2 |
| Lucille S. Schlosser Government | Contract Administration (1) Women in Procurement (1) | 2 |
| Sara Glenn | Protection of Privacy and Freedom of Information (2) | 2 |

Table 24. Focus: Journal

| <u>FOCUS</u> | <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> |
|--------------|-------------------------------|----------------------------------|
| Technical | 94 | 26.1 |
| Human | 78 | 21.7 |
| Conceptual | 188 | 52.2 |

More than one-half of the literature had a conceptual focus, thus providing information primarily to top management levels. Only 21.7 percent of the journal articles had a human focus while 26.1 percent were technical in nature.

The major themes of the journal articles were also evaluated to determine their overall focus. These findings showed that 29.0 percent of these articles had a technical focus, 18.7 percent had a human focus, and 52.3 percent had a conceptual focus. Hence, a greater percent of the major theme articles had a technical focus than did the total group of journal articles. However, over one-half of this select group was conceptual in nature, as were the total journal articles reviewed.

Analysis of the Magazine. The focus of each magazine article was also determined by the degree to which the article was technical, human, or conceptual in nature. A summary of the findings concerning the focus of the magazine articles has been displayed in Table 25. Once again, the primary focus of the literature was conceptual. However, the magazine had a ten percent lower conceptual focus than did the journal. The technical focus of the magazine was slightly lower than that of the journal while the magazine's human focus was noticeably higher than the journal's human focus.

Table 25. Focus: Magazine

| <u>FOCUS</u> | <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> |
|--------------|-------------------------------|----------------------------------|
| Technical | 183 | 23.7 |
| Human | 264 | 34.3 |
| Conceptual | 324 | 42.0 |

The major themes of the magazine articles were also evaluated to determine their overall focus. These findings showed that 23.2 percent of these articles had a technical focus, 32.1 percent had a human focus, and 44.7 percent had a conceptual focus. The focus percentages for the major themes did not differ significantly from the findings for the magazine literature as a whole.

Combined Analysis. The overall focus of the defense contract management literature base was determined by the degree to which the articles were technical, human, or conceptual in nature. The comprehensive findings are displayed in Table 26. The overall focus of the literature was primarily conceptual. It was also apparent that a technical focus claimed the smallest percent of the literature. Approximately one-third of the articles were identified as having a human focus.

Table 26. Focus: Combined

| <u>FOCUS</u> | <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> |
|--------------|---------------------------|------------------------------|
| Technical | 277 | 24.5 |
| Human | 342 | 30.2 |
| Conceptual | 512 | 45.3 |

The major themes of the literature were analyzed to ascertain their focus. Table 27 presents the findings which closely parallel the findings for the entire literature base. Almost 50 percent of the major themes had a conceptual focus.

Table 27. Focus: Major Themes - Combined

| TOPIC NUMBER DESIGNATOR AND TOPIC | TECHNICAL | HUMAN | CONCEPTUAL |
|--|-----------|-------|------------|
| 1 Federal Acquisition Regulation System | 1 | 14 | 78 |
| 31 Contract Cost Principles and Procedures | 23 | 21 | 13 |
| 83 Professionalism | 5 | 25 | 24 |
| 16 Types of Contracts | 29 | 5 | 18 |
| 19 Small Business and Small Disadvantaged Business Concerns | 5 | 14 | 31 |
| 33 Protests, Disputes, and Appeals | 10 | 21 | 17 |
| 32 Contract Financing | 12 | 20 | 12 |
| 3 Improper Business Practices and Personal Conflicts of Interest | 2 | 12 | 23 |
| 15.8 Price Negotiation | 17 | 9 | 8 |
| 44 Subcontracting Policies and Procedures | 14 | 11 | 5 |
| 84 International | 2 | 4 | 23 |
| 34 Major System Acquisition | 8 | 3 | 18 |
| 89 Organizational Environment | 0 | 2 | 26 |
| 46 Quality Assurance | 10 | 13 | 5 |
| TOTAL ARTICLES | 138 | 174 | 301 |
| FOCUS' PERCENT | 22.5% | 28.4% | 49.1% |

Investigative Question 4

Analyze the perspective of the defense contract management literature base.

Analysis of the Journal. The journal articles were analyzed to determine whether their perspective was a case study, topical, theoretical, or editorial. A summary of the findings concerning the perspective of the journal articles is presented in Table 28. Most of the journal articles had a topical perspective and therefore addressed a specific subject area or topic. Only 20 percent of the literature was a case study or theoretical in nature.

The major themes of the journal articles were also evaluated to determine their perspective. These findings showed

Table 28. Perspective: Journal

| <u>PERSPECTIVE</u> | <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> |
|--------------------|-------------------------------|----------------------------------|
| Case Study | 37 | 10.3 |
| Topical | 153 | 42.5 |
| Theoretical | 41 | 11.4 |
| Editorial | 129 | 35.8 |

that 10.4 percent of the articles were case studies, 42.5 had a topical perspective, 12.4 percent had a theoretical perspective, and 43.7 percent had an editorial perspective. The perspective of the major themes closely paralleled the perspective of the total journal articles.

Analysis of the Magazine. The magazine articles were analyzed to determine whether their perspective was a case study, topical, theoretical, or editorial. A summary of the findings concerning the perspective of the magazine articles is presented in Table 29.

Table 29. Perspective: Magazine

| <u>PERSPECTIVE</u> | <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> |
|--------------------|-------------------------------|----------------------------------|
| Case Study | 131 | 17.0 |
| Topical | 273 | 35.4 |
| Theoretical | 35 | 4.5 |
| Editorial | 332 | 43.1 |

As shown in Table 29, most of the magazine articles had an editorial perspective and as a result, discussed current

issues and individual opinions. Only 4.5 percent of the literature was theoretical in nature, indicating that the magazine seldom provided articles which addressed innovative concepts or research studies.

The major themes of the magazine articles were also evaluated to determine their perspective. These findings showed that 14.2 percent of the articles were case studies, 32.6 had a topical perspective, 5.1 percent had a theoretical perspective, and 48.1 percent had an editorial perspective. The major themes demonstrated a perspective very similar to the total group of magazine articles.

Combined Analysis. The perspective of the literature was evaluated after compiling the results of the total articles reviewed. These findings were used to determine whether the literature's emphasis was that of a case study, topical, theoretical, or editorial. The perspective of the combined journal and magazine findings are displayed in Table 30.

Table 30. Perspective: Combined

| <u>PERSPECTIVE</u> | <u>NUMBER OF ARTICLES</u> | <u>PERCENT OF LITERATURE</u> |
|--------------------|---------------------------|------------------------------|
| Case Study | 168 | 14.8 |
| Topical | 426 | 37.7 |
| Theoretical | 76 | 6.7 |
| Editorial | 461 | 40.8 |

As shown in Table 30, the overall perspective of the defense contract management literature was primarily

editorial. Only 6.7 percent of the entire literature base was theoretical. Consequently, the perspective of the literature was not evenly distributed among the four perspective areas. Rather, it was noticeably disproportionate, especially in terms of the theoretical and editorial perspectives.

The major themes of the literature articles were evaluated to ascertain their emphasis of perspective. Table 31 provides this information. The major themes demonstrated a disproportionate distribution of the perspective to approximately the same degree as the total literature base.

Table 31. Perspective: Major Themes - Combined

| TOPIC NUMBER DESIGNATOR AND TOPIC | CASE: | | | |
|--|-------|---------|-------------|-----------|
| | STUDY | TOPICAL | THEORETICAL | EDITORIAL |
| 1 Federal Acquisition Regulation System | 2 | 7 | 10 | 74 |
| 31 Contract Cost Principles and Procedures | 16 | 28 | 3 | 10 |
| 83 Professionalism | 0 | 2 | 1 | 51 |
| 16 Types of Contracts | 6 | 32 | 5 | 9 |
| 19 Small Business and Small Disadvantaged Business Concerns | 5 | 17 | 7 | 21 |
| 33 Protests, Disputes, and Appeals | 14 | 22 | 3 | 9 |
| 32 Contract Financing | 15 | 19 | 2 | 8 |
| 3 Improper Business Practices and Personal Conflicts of Interest | 8 | 12 | 0 | 17 |
| 15.8 Price Negotiation | 7 | 17 | 5 | 5 |
| 44 Subcontracting Policies and Procedures | 2 | 18 | 2 | 8 |
| 84 International | 0 | 7 | 0 | 22 |
| 34 Major System Acquisition | 1 | 11 | 7 | 10 |
| 89 Organizational Environment | 0 | 1 | 1 | 26 |
| 46 Quality Assurance | 8 | 17 | 0 | 3 |
| TOTAL ARTICLES | 84 | 210 | 46 | 273 |
| PERSPECTIVE PERCENT | 13.7% | 34.3% | 7.5% | 44.5% |

Investigative Question 5

Describe the evolvement of the Contract Management magazine and its areas of emphasis.

Overview. The objective of this study was to systematically describe certain facts and characteristics related to the literature base of the defense contract management field. During the review of the Contract Management magazine, a distinct evolvement of this publication became readily recognizable. It was assumed that the literature as a whole likely followed a similar evolvement process. This premise formed the basis for the establishment of the Contract Management magazine's evolution as an investigative area. Furthermore, considering that the literature contained in the magazine reflected current thought on defense contract management issues, an evaluation of this publication's contents over the years exemplified the various stages through which contract management issues have passed.

The Contract Management magazine began its monthly publication in July 1977. This research included a review of each monthly issue, from July 1977 through November 1988. The review process particularly revealed changes the magazine experienced through time, related to its areas of emphasis. These changes were noted in three ways: 1) the overall format and contents of the magazine, 2) the development of monthly feature sections, and 3) the number and content of the individually submitted articles.

Format/Contents. During the magazine's first two years of publication, it contained many symposium reports and focused primarily on group events and gatherings. The "Chapter News" and "New Members" sections prevailed in most of the issues. During this time, Contract Management seemed to serve more as an informal forum among nationwide contracting friends, rather than as a publication to provide specific coverage of contract management issues for its readership.

In November 1978, the magazine noticeably increased the number of articles written by defense contract management field personnel. Although symposium reports continued to appear, feature cover stories became less personal and were directed more towards the underlying foundations of various defense contract management organizations.

During 1979, the magazine progressed towards an emphasis on NCMA as an organization. The magazine's orientation was towards the origins of NCMA, its officers and membership, and its future directions. The "CPCM Column" (or Certified Professional Contracts Manager Column) first appeared in August 1979 and marked the beginning of the magazine's efforts to establish contract management as a profession.

In 1980, articles providing coverage of various government organizations prevailed. For example, personal interviews and reports of the Federal Acquisition Institute and the Office of Federal Procurement Policy were included. These articles discussed the evolving issues of career development and women in procurement.

A review of the magazine during the early 1980's showed an emphasis in a vast number of areas. Education and training within the defense contract management field became a growing concern. NCMA staff reports frequently addressed educational developments and contracting course offerings. Acquisition research became the focus of many articles. Book reviews began to appear frequently in the monthly issues.

Although procurement reform always played an important role in the magazine, it became a particularly popular topic in the mid-1980's. At this time, the development and implementation of the FAR received heavy coverage. Many articles concentrated on the discovery and sharing of ideas to improve defense contract management. The underlying focus of the magazine at this time was based upon the ongoing objective to gain recognition of contract management as a profession.

The emphasis on attaining a professional status has increased significantly during the past four years. This is evidenced in the magazine by its vigour towards CPCM certification, advanced education, and monthly features which specifically address this matter, i.e., the "Education Directory."

More recently, Contract Management has included a primary focus on ethics. This focus has paralleled the ethics concerns of the federal government as a whole. Since the trend has been to relate ethical problems to the acquisition process, a number of articles have dealt with the new and changing legislation designed to improve the defense

acquisition process. While the magazine has emphasized many areas during its evolvement, an all-encompassing emphasis has been placed on professionalism. This issue has seemingly prevailed in all aspects of Contract Management's contents.

Monthly Features. The magazine's evolvement process has centered around the development and inclusion of monthly feature sections. These features closely paralleled the changing areas of emphasis of the magazine as discussed in the previous section. Table 32 details the monthly feature sections and provides a brief description of each.

Individual Articles. The articles appearing in Contract Management have changed substantially since the magazine was first published in 1977. Not only has the number of individually submitted articles increased but, they have become more appropriate for the diverse audience for which they are written. The topics have also expanded to encompass more of the topics in the classification scheme, thus providing a more specialized view in a larger number of topic areas. The magazine has allowed individuals in the defense contracting field to express their views and share their knowledge with others. The increased number of articles and their content has supported the publication's apparent emphasis towards improving defense contract management as a field of practice and towards recognition of contract management as a profession.

Summary. The findings presented for this investigative question described the evolvement of the Contract Management

Table 32. Monthly Feature Sections: Magazine

| <u>TITLE</u> | <u>DESCRIPTION</u> |
|---------------------------------|--|
| Case Commentary | Published November 1977 to present. Authored by Robert D. Witte, attorney. Covers one to several legal cases in each issue which specifically address contracting issues. |
| For Beginners Only | First published in April 1981 and has appeared in most subsequent issues to date. Initially authored by William A. Ufford. Recently, several articles have been written by others. Focus is on discussing the basics of contract management for new individuals in the field. |
| Advice and Dissent | First published in November 1980 with only seven appearances in subsequent issues. Authored by various individuals, allowing them to share their viewpoints on a particular topic and to oppose other opinions. |
| The Committee of 10,000 | Started in January 1982 with several printings in subsequent issues. In July 1983, the name was changed to "The Committee of 12,000" to reflect NCMA's membership growth to 12,000. Serves as a forum to allow members to voice their ideas concerning ways to improve the contracting system. |
| Training Problems and Solutions | Started in May 1983 by two Air Force attorneys, Richard A. Moody and John T. Grablewski. States specific problems and then provides solutions in a question/answer format. |
| FAR Focus | Published February to July 1984 in preparation for the FAR's implementation. Each article sponsored by a different author. Focused on varied aspects of the FAR, its development, and guidance on its use. |

Table 32. Monthly Feature Sections: Magazine (continued)

| <u>TITLE</u> | <u>DESCRIPTION</u> |
|----------------|---|
| Speaking Out | Started in October 1984 and continues as a popular feature. Serves as an editorial for NCMA members or other individuals to voice their opinions concerning defense contract management issues. |
| Manager's Desk | First published in November 1985 and is presently published on an unscheduled basis. Authored by Bruce S. Ramo and James P. Gallatin. Focus is on the discussion of issues directed towards the contract manager. |

magazine and its areas of emphasis. The discussion addressed how the magazine evolved from a forum of informal reports, to a publication which provides the defense contract management community with information on current contract management issues, educational opportunities, and professional enhancement.

Conclusion

The findings of the analysis of the defense contract management literature base were detailed in this chapter. The findings were presented for each of the five investigative questions. The findings relating to the first four questions were divided into three categories which discussed the following: 1) the National Contract Management Journal, 2) the Contract Management magazine, and 3) the combined journal and magazine analysis.

The overall objective of the research was to systematically describe certain facts and characteristics of the defense contract management literature base for the benefit of those individuals working in the defense contract management field. Based on the research findings, recommendations and concluding remarks for the literature analysis are communicated in Chapter 5.

V. CONCLUSIONS AND RECOMMENDATIONS

Introductory Summary

This thesis has represented the first known analysis of the literature base of defense contract management. The significance of the study was primarily based upon the realization that the body of knowledge of a field is distinguished by its literature base; and therefore, what is known and what is not known about a field of study may be found in its literature. Defense contract management policymakers, practitioners, and academicians rely on this body of knowledge to keep abreast of changes in the field. The need to analyze the literature has been acknowledged by defense contracting experts as a means to demonstrate what is known about defense contract management as a field of practice, to identify deficiencies in the literature's current state, and to contribute towards the recognition of defense contract management as a profession.

The process of analyzing the literature was preceded by the accomplishment of the Delphi method of questioning. The Delphi method was used to obtain expert opinion for two purposes: 1) to further establish the purposefulness of the literature analysis and 2) to support the definitization of the investigative questions.

Once the Delphi questioning process was complete, the investigative questions were developed. The collective

information from two sources was used to develop the investigative questions. First, the investigative areas recommended by the Delphi participants were considered. Additionally, several literature analyses performed in the adult education field were reviewed to determine whether the methods used by that profession were appropriate to analyze the defense contract management literature. The resulting five aspects of the literature which were analyzed included topics, authors, focus, perspective, and evolvement.

The analysis consisted of the review of 1,131 defense contract management articles. The articles reviewed were those published by the National Contract Management Association in the National Contract Management Journal and Contract Management magazine. These two publications were chosen since they reflected current thought on defense contract management issues.

Following the review of the literature, the findings were analyzed using tables, frequency histograms, and the Pareto principal. This analysis enabled answers to the investigative questions to be formulated.

Conclusions

Delphi. In the Delphi process of questioning, 12 experts in the defense contract management field were requested to provide their opinions on 2 issues pertaining to a literature analysis. When asked whether they felt a literature analysis would serve a useful purpose, 80 percent of the respondents stated that it would be a very worthwhile

endeavor. This response provided strong support for the study and demonstrated that the need for an analysis of the literature did exist. Furthermore, this response showed that others in the defense contract management field in addition to those individuals discussed in Chapter 2 had questions concerning the current state of the literature. The 12 experts were also requested to provide investigative areas for the study which they felt would result in useful information being obtained from the literature analysis.

Responses to Round One were received from seven of the participants. Although additional time was given to the five non-respondents to encourage their participation, no further response was received. This had several implications. First, the lack of response apparently was not due to an insufficient amount of time being initially provided for the experts to respond to the questionnaire. The second implication was that "experts" had in fact been selected to participate in the Delphi process. Since the Delphi participants worked at the top management levels within their organizations, it was difficult for them to take time away from their busy schedules to complete the questionnaire.

The request for potential investigative areas for the study generated a great deal of response from the experts. Having their primary focus on the improvement of the defense contract management field, the experts provided thought-provoking feedback on areas which they felt should be addressed in the analysis. The substance of these responses

indicated that experts in the field believed there was much to be gained from a literature analysis and they had specific ideas regarding what those gains should be.

The experts recommended some investigative areas which were beyond the scope of this study. These areas are addressed in the "Recommendations" section of this chapter.

Investigative Question 1. The topic "Federal Acquisition Regulation System" was the most popular topic in the literature. Included under this topic were a large number of articles concerning procurement reform and the regulations and policies governing the defense acquisition process. Of the 14 major themes identified in the literature, 3 dealt with money/cost issues. An evaluation of the major themes on a collective basis showed that they paralleled those issues receiving the most attention from the general public. Perhaps the authors were driven by the main issues of the day, rather than the entire scope of topics making up the body of knowledge of the field.

Only 30 of the 1,131 articles reviewed covered the neglected topics of the literature. These seemingly unpopular topics were primarily legal topics of a "dry" nature. Hence, it was assumed that topics such as "Taxes," "Federal Supply Schedule Contracting," and "Definitions of Words and Terms" were perceived as necessary to the field yet, held little interest for defense contracting individuals.

Investigative Question 2. A total of 718 authors contributed to the 1,131 articles reviewed. This indicated

that either 63.5 percent of the authors wrote only 1 article or that possibly a portion of the 63.5 percent of the authors were actually co-authors. Of the 413 authors writing more than 1 article, only 14 had written 8 articles or more. This finding suggested that a small number of individuals in the field were making the most significant contributions. Also, this pointed conclusively towards these individuals as "the experts." Since they were responsible for distributing the knowledge, they likely had more expertise in their authored topics than others in the field.

Interestingly enough, no female authors were identified as major contributors. The female authors only represented 8.4 percent of the total authors and the major female authors only published 1.6 percent of the literature. Most of the literature provided by female authors had been published recently, especially during the past five years. Perhaps this is an indication that female authorship is on the uprise and will continue to increase in the coming years.

The professional background of the entire author pool was found to be fairly evenly distributed between industry and government. However, during the review of the articles and the analysis of the authors, it was noted that a significant number of the authors were attorneys. This profession seemed to place a heavy emphasis on publishing articles in professional publications.

The professional backgrounds of the major contributors had an uneven distribution. Of the 14 major contributors, 11

were from industry. Assuming that the major contributors represented the experts in the field, then industry has been responsible for providing the defense contract management field with most of its expertise and thus, for establishing a major portion of the field's knowledge base. Over one-half of the major contributors were attorneys, which again pointed towards an emphasis for individuals in that field to contribute to professional publications.

Investigative Question 3. The literature was evaluated to determine whether it had a technical, human, or conceptual focus which would provide information to technicians, middle management, or top management respectively. Almost 50 percent of the literature had a conceptual focus. This indicated that the individuals providing the literature were concerned with the system and organizational levels of defense contract management. Perhaps this was due to the authors' own personal interests and/or their level of expertise.

The magazine had a ten percent lower conceptual focus than the journal. However the magazine's human focus was noticeably higher than the journal's human focus. These differences were attributed to both the varying backgrounds of the authors for each individual publication, as well as the various audiences for which they were perceived to be written.

Investigative Question 4. The overall perspective of the defense contract management literature was primarily

editorial. This finding indicated that most of the literature consisted of opinions and individual points of view. Only 6.7 percent of the entire literature base was theoretical. It appeared that not much effort was being expended towards developing new ideas and theories. Case studies comprised 14.8 of the articles reviewed which indicated that little had been done to evaluate past events as a means to learn more and make improvements in the field. A topical perspective was found in 37.7 percent of the literature. This finding was significant since it indicated that over one-third of the literature was addressing specific topic areas in the researcher's classification scheme. It was assumed that this portion of the literature was providing a solid body of knowledge in regards to the topics covered.

Investigative Question 5. The findings related to the evolvement of the Contract Management magazine provided a representation of how the literature as a whole evolved. The various stages through which defense contract management had passed indicated that the evolvement of this field had closely followed the current issues of the times and the associated technological advances. The Federal government's moral and ethical standards, budget, and foreign defense policy were instrumental in shaping the defense contract management field as it is known today. Perhaps more than any other [professional] field, defense contract management has had considerable external influences forced upon its existence.

Over the years, the literature base has grown to address more topics. A "maturation" process was evidenced by the increased topic coverage and a larger number of individuals contributing to the literature as compared to earlier years. The emergent emphasis of the magazine was towards improving defense contract management as a field of practice and towards recognition of contract management as a profession.

Recommendations

This research appeared to be the first formal effort to analyze the literature base of defense contract management. In actuality, the analysis process is a never-ending one since the field is in a constant state of change. This study was only the beginning of meeting a need that was long overdue. Consequently, there is a great potential for further research in this area. Recommendations for future studies are set forth in this section.

Suggestions for Improvement. The Delphi played a major role in this study. However, while experts do indeed have much experience and "expert opinion" to share, they also have limited time to do so. The less than 100 percent response rate to Round One was believed to be the result of its requiring more time than Round Two. Round Two required less time for the experts to provide feedback to the "given" information than it did for them to "create" the information requested in Round One. As a result, Round Two had a 100 percent response rate. In retrospect, the Delphi was a very useful tool to solicit expert opinion. However, a greater

response rate might have been achieved if the Round One questionnaire had been developed so that it required less time for the experts to formulate their responses.

The objective of this research was accomplished through the effective implementation of the method which was developed to analyze the literature. However, possible improvements to the overall literature analysis might be realized by following the recommendations for future studies described in the next section.

Further Studies. The analysis of the defense contract management literature evaluated the National Contract Management Journal and the Contract Management magazine. Many other publications also exist which have contributed to the literature base. Therefore, future studies should be pursued to analyze these publications so that a more thorough and all-encompassing analysis is achieved.

In addition to analyzing other literature which represents the defense contract management field, it is recommended that future studies address those aspects of a literature analysis which were beyond the scope of this study.

For example, during the development of the investigative questions, performing a depth analysis of the literature was considered infeasible for this study. Nonetheless, the depth of the literature was identified during the literature review (Chapter 2) as an important aspect of a literature analysis. A definition of depth was included in Chapter 1 of this

thesis. A future study might establish a formal definition of depth, design an objective method for depth analysis, and then perform an analysis. One way of accomplishing this would be to develop a set of criteria for evaluating the literature's depth, select a sample of literature for the analysis, and have experts in the defense contract management field perform the analysis using the set of criteria. An existing literature analysis matrix or taxonomy (such as those discussed in Chapter 2) could be used for this purpose.

The Delphi process of questioning resulted in several suggested investigative areas which were also beyond the scope of this thesis. One expert suggested that the "quality" or adequacy of the literature should be analyzed. Another stated that the bias of the authors contributing to the literature, whether it be pro or con for industry or government, should be an investigative area. One recommendation was that a summary abstract be created for each piece of literature. The abstract would include a cross reference system between articles which addressing similar issues. It is recommended that future research efforts are required to address these issues of analysis.

Summary

This chapter has provided a commentary of the conclusions of this study, and has defined new directions for future analyses of the literature base of defense contract management.

The impact and significance of this literature analysis is that a database was finally developed to describe the current state and characteristics of the literature to defense contracting policymakers, academicians, and practitioners. The researcher recognizes that the analysis does not end here. The ongoing work of many dedicated individuals will be required to ensure that the literature continues to be analyzed in the future. This will serve to meet the ever-changing needs of the defense contracting community.

The defense contracting arena has been the target of a considerable amount of publicity in the United States. Consequently, the literature of the defense contract management field has become of prime importance since it holds the secrets to what is known and what is not known in this field. This thesis has represented the first step taken to unveil these secrets in order to improve and enhance the field of defense contract management.

Appendix A: Delphi Letter of Introduction to Experts

7 November 1988

Participant's Name
Address

Dear Participant:

I would like to take this opportunity to introduce you to one of our Air Force Institute of Technology graduate students, 1Lt Mary Farquhar. Lt Farquhar's thesis topic is "An Analysis of the Literature Base of the Defense Contract Management Field." As part of her research effort, she will be using the Delphi technique to obtain expert opinion concerning the purposefulness of the research. This will consist of two rounds of a brief questionnaire.

Lt Farquhar recently requested that I identify experts in the field to serve as Delphi participants. As an expert, I hope that you will agree to participate in this study. Your name will not be divulged; a primary feature of the Delphi technique is anonymity of the participants.

Your support of Lt Farquhar's research will serve to further the development of the contract management field. I am sure you will agree that an analysis of our literature base will contribute significantly towards the recognition of the contract management field as a profession.

Lt Farquhar will contact you in the near future to discuss her research project and your participation. If you have any questions, please feel free to call me at (513) 255-3944 (AUTOVON 785-3944) or Lt Farquhar at (513) 252-4627.

Your participation will be greatly appreciated.

William C. Pursch, PhD
Head, Department of Contracting Management
School of Systems and Logistics

Appendix B: Delphi Round One

25 November 1988

Participant's Name
Address

Dear Participant:

Thank you for agreeing to participate in this AFIT Delphi questionnaire. The purpose of this research is to analyze the literature base of the defense contract management field. You were selected to participate in this important research because your experience and insight qualify you as a defense contract management "expert." Your opinions and comments will be combined with those of other experts to establish the purposefulness of this research effort and to definitize the investigative questions.

The attached Delphi questionnaire solicits your personal opinions. Please complete the survey and return it in the enclosed envelope within two weeks. As soon as all of the responses are compiled, a second Delphi questionnaire will be mailed to you.

Any additional comments, suggestions, and ideas regarding this literature analysis are also welcomed and encouraged. The last page of the questionnaire is for this purpose.

If you have any questions, please call me at (513) 252-4627 or my thesis advisor, Ms. Rita Wells at (513) 255-8546 (AV 785-8546).

I sincerely appreciate your willingness to work this questionnaire into your busy schedule. Your expertise is invaluable to me.

MARY L. FARQUHAR, 1Lt, USAF
Graduate Contract Management Student
School of Systems and Logistics

2 Atch
1. Delphi
Questionnaire
2. Return Envelope

Round One Delphi Questionnaire

1. Questionnaire Objectives:

a. To establish justification of the purposefulness of an analysis of the literature base of defense contract management.

b. To obtain expert opinion concerning questions which an analysis of the literature base of defense contract management should seek to answer.

2. Definitions

a. Defense Contract Management: A discipline that includes all of the pre-award and post-award functions that are associated with entering into a contractual relationship on behalf of the Department of Defense involving the use of public funds.

b. Literature Base: The written materials which discuss any aspect of defense contract management and which are published in the National Contract Management Journal or the Contract Management magazine.

c. Analysis of Literature: The qualitative evaluation of the literature base in regards to the literature's focus, goal(s), perspective, organization, depth, breadth, contributors, audience, etc. The intent of the analysis is NOT to resolve specific issues, i.e., profit policy deficiencies.

3. General Information

a. The two questions in this questionnaire are not intended to limit any "expert" opinion(s) you may have concerning other areas of the research. Please include any additional ideas or recommendations that you feel are pertinent to this study. The last page of this question-naire is provided for this purpose.

b. At least two rounds of questioning will be needed to arrive at a group consensus. Each round should take no more than thirty minutes to complete. After each round, all participants' responses will be compiled and presented to you with the next round. You will be provided a summary of the Delphi research results after all rounds are completed.

c. The number in the upper right-hand corner of the questionnaire is for control purposes only. Complete anonymity will be enforced for all participants' responses.

d. If you have any questions about this questionnaire, please call 1Lt Mary Farquhar at (513) 252-4627 or Rita Wells at (513) 255-8546 (AV 785-8546).

THANK YOU FOR PARTICIPATING IN THIS QUESTIONNAIRE.

ID# _____

AN ANALYSIS OF THE LITERATURE BASE OF DEFENSE CONTRACT MANAGEMENT

Round One

TOPIC 1: PURPOSEFULNESS

In your opinion, would an analysis of the literature base of defense contract management serve a useful purpose, and if so, for what reason(s)?

This image shows a full page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Please list no more than five questions or specific areas that you believe the literature analysis should seek to answer or evaluate. Consider how the results might be used by different individuals such as yourself, policymakers, academicians, and practitioners in the field.

[illegible]

[illegible]

1Lt Mary L. Farquhar
5248 Cobb Drive
Dayton, OH 45431

116

Appendix C: Delphi Round Two

18 January 1989

Participant's Name
Address

Dear Participant:

Thank you for completing the first round of the Delphi questionnaire on the analysis of the defense contract management literature base. Your comments were of great value to this research.

In this round, I have included the results of Round One as well as an explanation of the Delphi process followed to implement Round Two. Following this vital information, the second round Delphi questionnaire containing the participants' feedback is attached. Please read the comments and then provide your response as indicated.

I appreciate the time you are investing in this research. Please try to return your completed survey in the enclosed envelope within two weeks, so that the responses to this round can be analyzed expediently. If needed, a third round will be sent to you in February. You will be provided a summary of the Delphi research results after all rounds are completed.

If you have any questions, please call me at (513) 252-4627 or my thesis advisor, Ms. Rita Wells at (513) 255-8546 (AV 785-8546).

Thank you again for sharing your expertise and for working this questionnaire into your busy schedule.

MARY L. FARQUHAR, 1Lt, USAF
Graduate Contract Management Student
School of Systems and Logistics

2 Atch
1. Delphi Questionnaire
2. Return Envelope

Round Two Delphi Questionnaire

1. Round One Results

a. The Round One Delphi questionnaire was sent to 12 experts in the field of defense contract management.

b. Participants were requested to return their responses within two weeks. However, due to holiday mail delays, non-respondents were called on 5 Jan 89 to inform them that Round One responses would be received until 11 Jan 89. On 12 Jan 89, an analysis of the responses received for Round One provided the following data:

| | |
|--|------------|
| No response received | 5 or 41.7% |
| Response received | 7 or 58.3% |
| Responded: "do not feel qualified" | 1 or 14.3% |
| Failed to respond in accordance with the definition given for "analysis of literature" | 1 or 14.3% |
| Total responses to be used in Round Two | 5 or 41.7% |

The participant responding "do not feel qualified" has been eliminated from the list of participants and will not be included in future rounds of the Delphi questioning process. The response received from the participant failing to respond in accordance with the definition provided for "analysis of literature" has been omitted and is not included in Round Two. However, this individual will continue to participate in the Delphi questioning process. After eliminating these two responses, the remaining five responses comprise the second round questionnaire.

c. The Round Two questionnaire was developed from five participant's responses, as stated in the preceding paragraph. A thorough evaluation of the responses was conducted to identify similar ideas among the respondents. These similar ideas were then consolidated. Therefore, this second round of questioning presents a summarization of the expert opinion received from Round One.

d. The Round One responses received for Topic 1: Purposefulness, will be used to provide additional justification and support for a literature analysis of defense contract management. Therefore, further participant feedback to Topic 1 is not required. This second round of questioning includes only the responses received for Topic 2: Areas for Research.

e. The feedback requested in this round is two-fold. First, a Likert scale is provided for you to indicate the degree to which you agree or disagree with each Round One response. The next section requires you to rank order five of

the responses, which, in your expert opinion, should be the investigative questions for the research.

2. Definitions

a. Defense Contract Management: A discipline that includes all of the pre-award and post-award functions that are associated with entering into a contractual relationship on behalf of the Department of Defense involving the use of public funds.

b. Literature Base: The written materials which discuss any aspect of defense contract management that are published in the National Contract Management Journal or the Contract Management magazine.

c. Analysis of Literature: The qualitative evaluation of the literature base in regards to the literature's focus, goal(s), perspective, organization, depth, breadth, contributors, audience, etc. The intent of the analysis is NOT to resolve specific issues, i.e., profit policy deficiencies.

3. General Information

a. If you would like to provide additional comments on this second round, please do so in the space provided on the last page of this questionnaire.

b. The number in the upper right-hand corner of the questionnaire is for control purposes only. Complete anonymity will be enforced for all participants' responses.

c. If you have any questions about this questionnaire, please call 1Lt Mary Farquhar at (513) 252-4627 or Ms. Rita Wells at (513) 255-8546 (AV 785-8546).

THANK YOU FOR PARTICIPATING IN THIS QUESTIONNAIRE.

AN ANALYSIS OF THE LITERATURE BASE
OF
DEFENSE CONTRACT MANAGEMENT

Round Two

SECTION 1: LIKERT SCALE

Listed below is the cumulative response to Topic 2: Areas for Research, received from Round One participants. Please review each question/area which has been suggested for the purpose of analyzing the defense contract management literature base. Then, using the Likert scales provided, indicate the degree to which you agree or disagree that each question/area should be addressed by the literature analysis. Please circle the number which most accurately reflects your opinion.

QUESTION/AREA 1

How many times is each author published in each publication?

| Scale 1: | Totally Agree | | | | Totally Disagree | | | |
|----------|------------------|---|---|---|---------------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 2

Develop a compilation of the background and affiliation of the authors.

| Scale 2: | Totally Agree | | | | Totally Disagree | | | |
|----------|------------------|---|---|---|---------------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 3

Develop a compilation and quantification of subject matters covered in each publication, i.e., do the articles cover the contracting process from cradle to grave and the range of historical to current issues?

| Scale 3: | Totally Agree | | | | Totally Disagree | | | |
|----------|------------------|---|---|---|---------------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 4

Analyze the literature in terms of the following focus:

- a. case studies (after the fact)
- b. topical studies (deal with a specific facet of acquisition)
- c. theoretical studies (address an innovative concept not yet employed in practice)
- d. editorial-type studies (deal with current issues such as profit policy, industrial base, and socio-economic programs)

| | | | | | | | | |
|----------|----------------------|---|---|---|-------------------------|--|--|--|
| Scale 4: | <u>Totally Agree</u> | | | | <u>Totally Disagree</u> | | | |
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 5

Are opinions presented biased in their analysis, or are issues dealt with fairly, either in the same article or via side-by-side, pro-con articles? Develop a compilation of the number of times a point of view has been taken on any issue in terms of:

- a. pro government
- b. pro industry
- c. unbiased either way

| | | | | | | | | |
|----------|----------------------|---|---|---|-------------------------|--|--|--|
| Scale 5: | <u>Totally Agree</u> | | | | <u>Totally Disagree</u> | | | |
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 6

Do the articles presented cover an appropriate distribution of the range of readers' experience levels so that the readers' knowledge and understanding of contract management is advanced?

| | | | | | | | | |
|----------|----------------------|---|---|---|-------------------------|--|--|--|
| Scale 6: | <u>Totally Agree</u> | | | | <u>Totally Disagree</u> | | | |
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 7

Is the article length appropriate?

| Scale 7: | <u>Totally Agree</u> | | | | <u>Totally Disagree</u> | | | |
|----------|----------------------|---|---|---|-------------------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 8

Evaluate the literature in terms of its quality:

- a. Does the article accurately present the facts?
- b. Are theses clearly developed and explained?
- c. Has the publication used papers written by recognized experts to a logical degree?

| Scale 8: | <u>Totally Agree</u> | | | | <u>Totally Disagree</u> | | | |
|----------|----------------------|---|---|---|-------------------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 9

Develop an abstract for each article which concisely describes the article's fundamental premise or theme and its "finding," if any. Include a "but see" section where citation is made to a comparable research effort which affirms, disagrees, or partially disagrees with the cited effort.

| Scale 9: | <u>Totally Agree</u> | | | | <u>Totally Disagree</u> | | | |
|----------|----------------------|---|---|---|-------------------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |

QUESTION/AREA 10

Conduct an analysis of all contract management literature to include papers, books, and courses established by educational institutions, law firms, etc.

| Scale 10: | <u>Totally Agree</u> | | | | <u>Totally Disagree</u> | | | |
|-----------|----------------------|---|---|---|-------------------------|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | | | |

SECTION 2: RANK ORDER

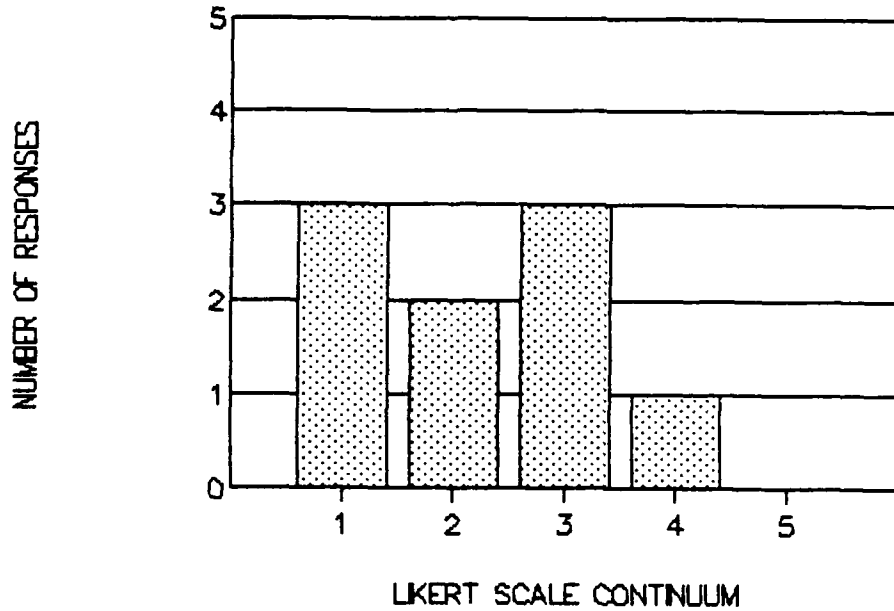
Please re-review each of the ten questions/areas listed in Section 1 of this questionnaire. Then select ONLY the top FIVE questions/areas which, in your opinion, should be included as investigative questions for the research. Once you have made your selection, please RANK ORDER these five areas in the space provided below.

QUESTION/AREA NUMBER

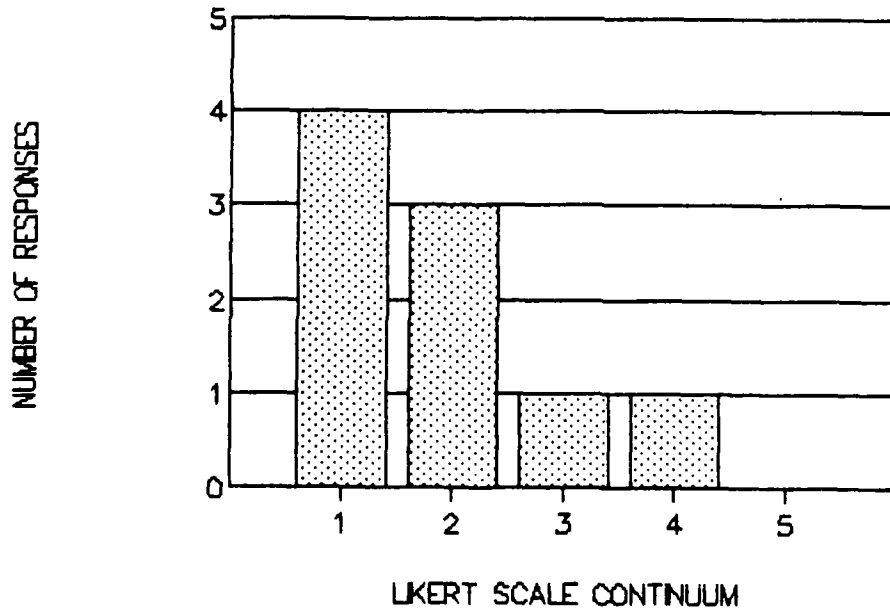
RANK ORDER NUMBER

| | |
|----|-------|
| 1 | _____ |
| 2 | _____ |
| 3 | _____ |
| 4 | _____ |
| 5 | _____ |
| 6 | _____ |
| 7 | _____ |
| 8 | _____ |
| 9 | _____ |
| 10 | _____ |

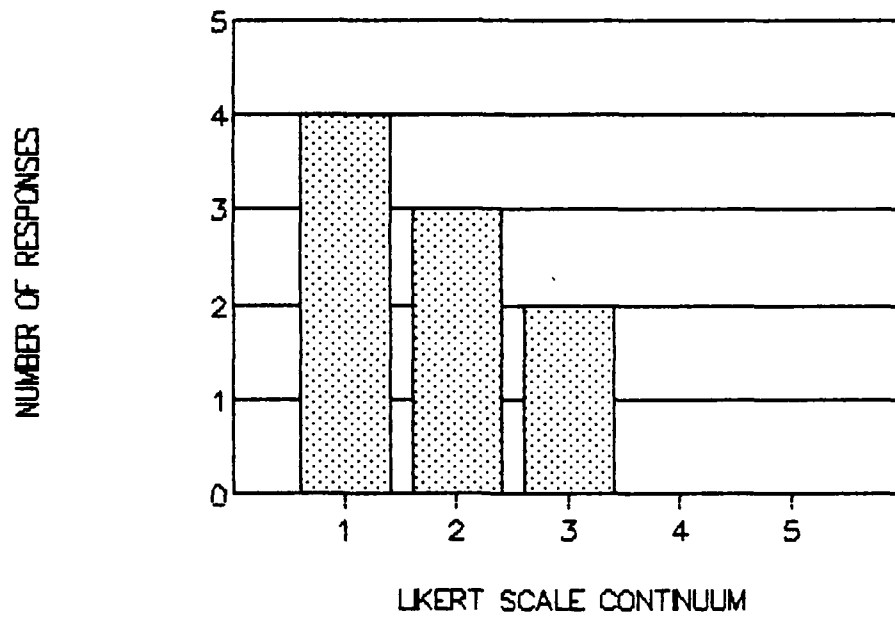
Appendix D: Likert Scale Results: Nine Frequency Histograms Related to the Specific Areas Suggested for Investigation



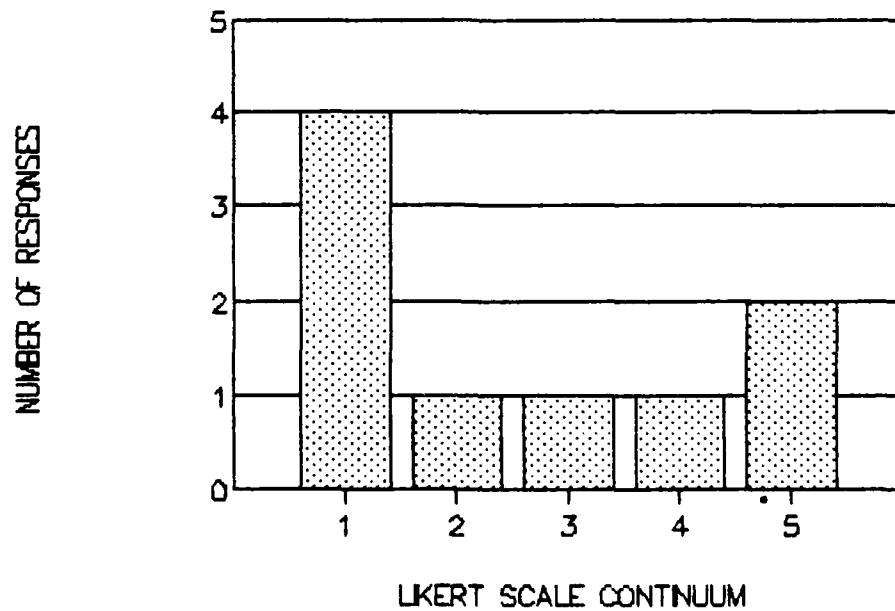
Frequency Histogram of Area 2 - Author Background



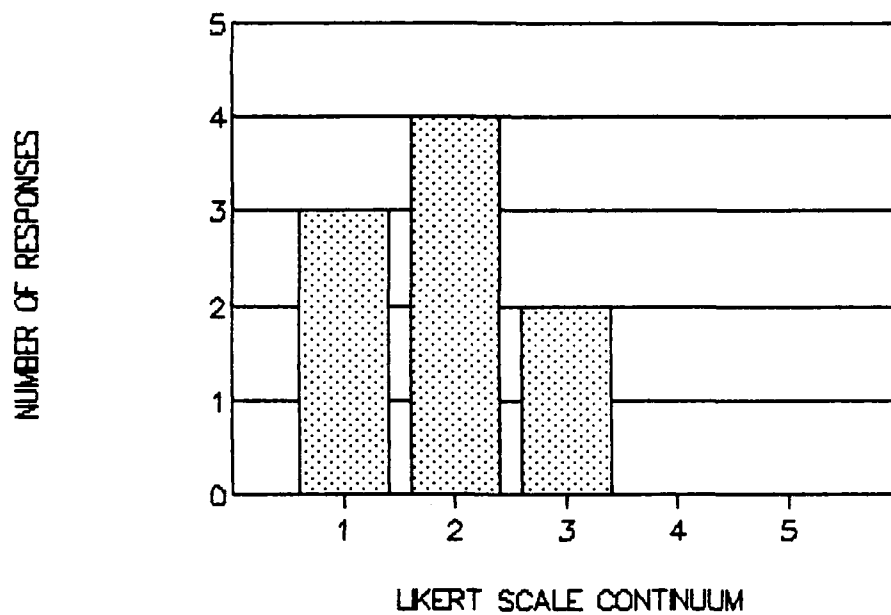
Frequency Histogram of Area 3 - Topic



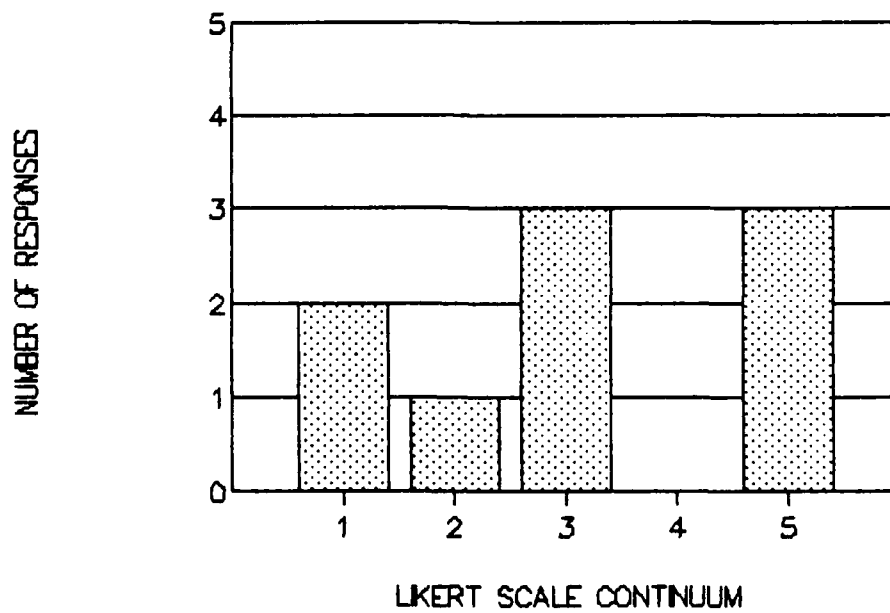
Frequency Histogram of Area 4 - Perspective



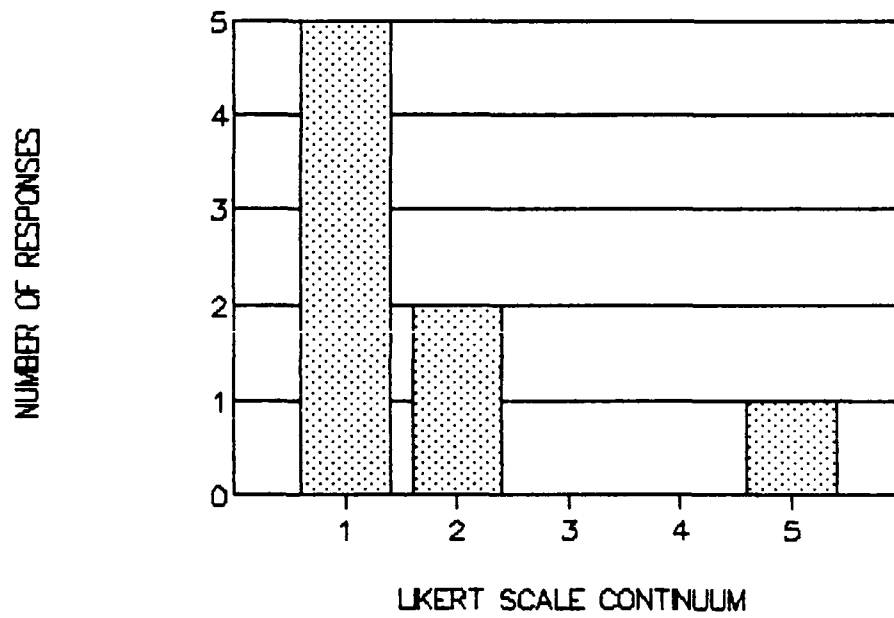
Frequency Histogram of Area 5 - Bias



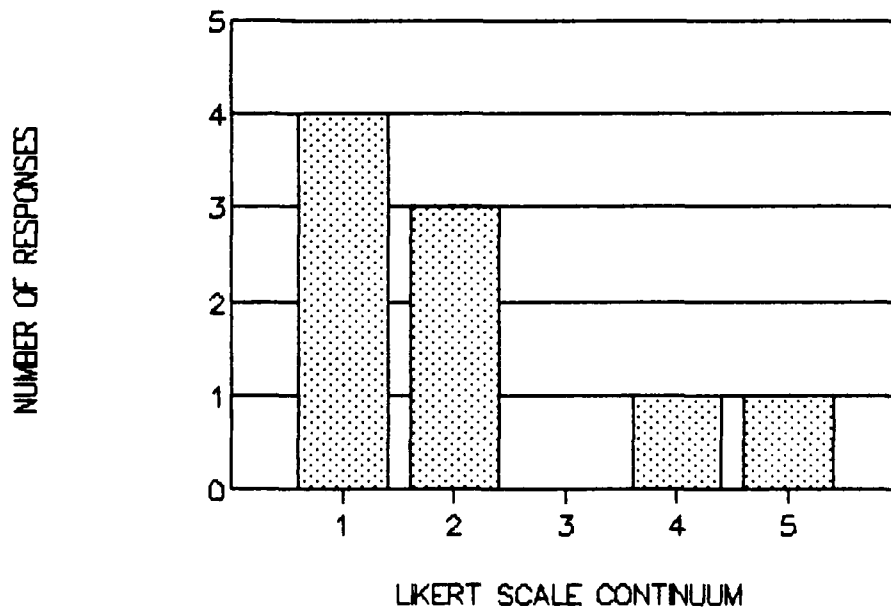
Frequency Histogram of Area 6 - Reader Experience



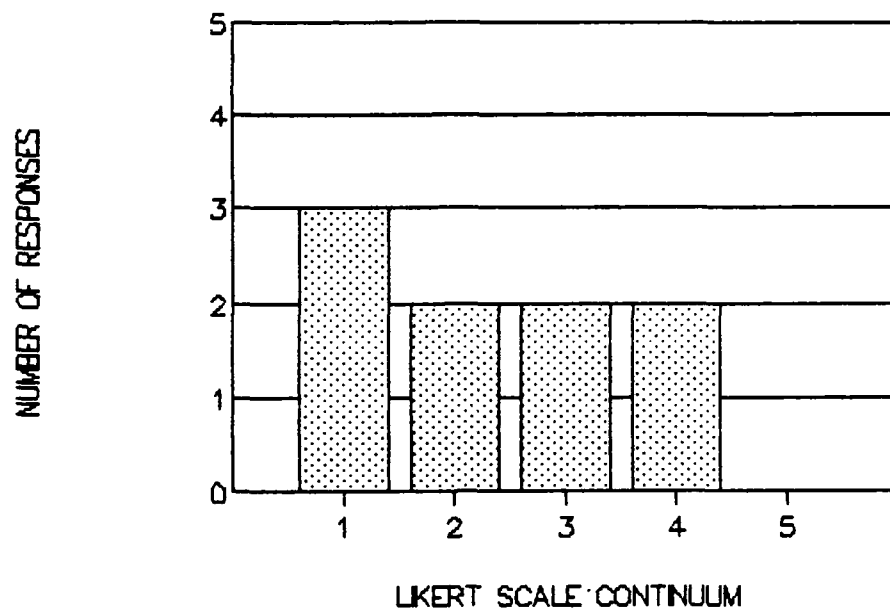
Frequency Histogram of Area 7 - Length



Frequency Histogram of Area 8 - Quality



Frequency Histogram of Area 9 - Abstract



Frequency Histogram of Area 10 - All Literature

Appendix E: General Structure of the
Federal Acquisition Regulation
to the Subpart Level

SUBCHAPTER A - GENERAL

PART 1 - FEDERAL ACQUISITION REGULATIONS SYSTEM

- 1.1 Purpose, Authority, Issuance
- 1.2 Administration
- 1.3 Agency Acquisition Regulations
- 1.4 Deviations From the FAR
- 1.5 Agency and Public Participation
- 1.6 Contracting Authority and Responsibilities
- 1.7 Determinations and Findings

PART 2 - DEFINITIONS OF WORDS AND TERMS

- 2.1 Definitions
- 2.2 Definitions Clause

PART 3 - IMPROPER BUSINESS PRACTICES AND PERSONAL CONFLICTS OF INTEREST

- 3.1 Safeguards
- 3.2 Contractor Gratuities to Government Personnel
- 3.3 Reports of Suspected Antitrust Violations
- 3.4 Contingent Fees
- 3.5 Other Improper Business Practices
- 3.6 Contracts with Government Employees or Organizations Owned or Controlled by Them
- 3.7 Voiding and Rescinding Contracts

PART 4 - ADMINISTRATIVE MATTERS

- 4.1 Contract Execution
- 4.2 Contract Distribution
- 4.3 Reserved
- 4.4 Safeguarding Classified Information Within Industry
- 4.5 Reserved
- 4.6 Contract Reporting
- 4.7 Contractor Records Retention
- 4.8 Contract Files

SUBCHAPTER B - COMPETITION AND ACQUISITION PLANNING

PART 5 - PUBLICIZING CONTRACT ACTIONS

- 5.1 Dissemination of Information
- 5.2 Synopses of Proposed Contract Actions
- 5.3 Synopses of Contract Awards
- 5.4 Release of Information
- 5.5 Paid Advertisements

PART 6 - COMPETITION REQUIREMENTS

- 6.1 Full and Open Competition
- 6.2 Full and Open Competition After Exclusion of Sources
- 6.3 Other Than Full and Open Competition

- 6.4 Sealed Bidding and Competitive Proposals
- 6.5 Competition Advocates

PART 7 - ACQUISITION PLANNING

- 7.1 Acquisition Plans
- 7.2 Reserved
- 7.3 Contractor Versus Government Performance
- 7.4 Equipment Lease or Purchase

PART 8 - REQUIRED SOURCES OF SUPPLIES AND SERVICES

- 8.1 Excess Personal Property
- 8.2 Jewel Bearings and Related Items
- 8.3 Acquisition of Utility Services
- 8.4 Ordering from Federal Supply Schedules
- 8.5 Reserved
- 8.6 Acquisition from Federal Prison Industries, Inc.
- 8.7 Acquisition from the Blind and Other Severely Handicapped
- 8.8 Acquisition of Printing and Related Supplies
- 8.9 Reserved
- 8.10 Reserved
- 8.11 Leasing of Motor Vehicles

PART 9 - CONTRACTOR QUALIFICATIONS

- 9.1 Responsible Prospective Contractors
- 9.2 Qualified Products
- 9.3 First Article Testing and Approval
- 9.4 Debarment, Suspension, and Ineligibility
- 9.5 Organizational Conflicts of Interest
- 9.6 Contractor Team Arrangements
- 9.7 Defense Production Pools and Research and Development Pools

PART 10 - SPECIFICATIONS, STANDARDS, AND OTHER PURCHASE DESCRIPTIONS

PART 11 - ACQUISITION AND DISTRIBUTION OF COMMERCIAL PRODUCTS

PART 12 - CONTRACT DELIVERY OR PERFORMANCE

- 12.1 Delivery or Performance Schedules
- 12.2 Liquidated Damages
- 12.3 Priorities and Allocations
- 12.4 Variation in Quantity
- 12.5 Suspension of Work, Stop-Work Orders, and Government Delay of Work

SUBCHAPTER C - CONTRACTING METHODS AND CONTRACT TYPES

PART 13 - SMALL PURCHASE AND OTHER SIMPLIFIED PURCHASE PROCEDURES

- 13.1 General
- 13.2 Blanket Purchase Agreements
- 13.3 Fast Payment Procedure
- 13.4 Imprest Fund
- 13.5 Purchase Orders

PART 14 - SEALED BIDDING

- 14.1 Use of Sealed Bidding
- 14.2 Solicitation of Bids
- 14.3 Submission of Bids
- 14.4 Opening of Bids and Award of Contract
- 14.5 Two-Step Sealed Bidding

PART 15 - CONTRACTING BY NEGOTIATION

- 15.1 General Requirements for Negotiation
- 15.2 Reserved
- 15.3 Reserved
- 15.4 Solicitation and Receipt of Proposals and Quotations
- 15.5 Unsolicited Proposals
- 15.6 Source Selection
- 15.7 Make-or-Buy Programs
- 15.8 Price Negotiation
- 15.9 Profit
- 15.10 Preaward, Award, and Postaward Notifications, Protests, and Mistakes

PART 16 - TYPES OF CONTRACTS

- 16.1 Selecting Contract Types
- 16.2 Fixed-Price Contracts
- 16.3 Cost-Reimbursement Contracts
- 16.4 Incentive Contracts
- 16.5 Indefinite-Delivery Contracts
- 16.6 Time-and-Materials, Labor-Hour, and Letter Contracts
- 16.7 Agreements

PART 17 - SPECIAL CONTRACTING METHODS

- 17.1 Multi-Year Contracting
- 17.2 Options
- 17.3 Reserved
- 17.4 Leader Company Contracting
- 17.5 Interagency Acquisitions Under the Economy Act
- 17.6 Management and Operating Contracts

PART 18 - RESERVED

SUBCHAPTER D - SOCIOECONOMIC PROGRAMS

PART 19 - SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CONCERNS

- 19.1 Size Standards
- 19.2 Policies
- 19.3 Determination of Status as a Small Business Concern
- 19.4 Cooperation with the Small Business Administration
- 19.5 Set-Asides for Small Business
- 19.6 Certificates of Competency and Determinations of Eligibility
- 19.7 Subcontracting with Small Business and Small Disadvantaged Business Concerns
- 19.8 Contracting with the Small Business Administration (The 8(a) Program)
- 19.9 Contracting Opportunities for Women-Owned Small Businesses

PART 20 - LABOR SURPLUS AREA CONCERNS

- 20.1 General
- 20.2 Set-Asides
- 20.3 Labor Surplus Area Subcontracting Program

PART 21 - RESERVED

PART 22 - APPLICATION OF LABOR LAWS TO GOVERNMENT ACQUISITION

- 22.1 Basic Labor Policies
- 22.2 Convict Labor
- 22.3 Contract Work Hours and Safety Standards Act
- 22.4 Labor Standards for Contracts Involving Construction
- 22.5 Reserved
- 22.6 Walsh-Healy Public Contracts Act
- 22.7 Reserved
- 22.8 Equal Employment Opportunity
- 22.9 Nondiscrimination Because of Age
- 22.10 Reserved
- 22.11 Professional Employee Compensation
- 22.12 Reserved
- 22.13 Special Disabled and Vietnam Era Veterans
- 22.14 Employment of the Handicapped

PART 23 - ENVIRONMENT, CONSERVATION, AND OCCUPATIONAL SAFETY

- 23.1 Pollution Control and Clean Air and Water
- 23.2 Energy Conservation
- 23.3 Hazardous Material Identification and Material Safety Data
- 23.4 Use of Recovered Materials

PART 24 - PROTECTION OF PRIVACY AND FREEDOM OF INFORMATION

- 24.1 Protection of Individual Privacy
- 24.2 Freedom of Information Act

PART 25 - FOREIGN ACQUISITION

- 25.1 Buy American Act - Supplies
- 25.2 Buy American Act - Construction Materials
- 25.3 Balance of Payments Program
- 25.4 Purchases Under the Trade Agreements Act of 1979
- 25.5 Payment in Local Foreign Currency
- 25.6 Customs and Duties
- 25.7 Restrictions on Certain Foreign Purchases
- 25.8 International Agreements and Coordination
- 25.9 Omission of the Examination of Records Clause

PART 26 - RESERVED

SUBCHAPTER E - GENERAL CONTRACTING REQUIREMENTS

PART 27 - PATENTS, DATA, AND COPYRIGHTS

- 27.1 General
- 27.2 Patents
- 27.3 Patent Rights Under Government Contracts
- 27.4 Rights in Data and Copyrights

- 27.5 Reserved
- 27.6 Foreign License and Technical Assistance Agreements

PART 28 - BONDS AND INSURANCE

- 28.1 Bonds
- 28.2 Sureties
- 28.3 Insurance

PART 29 - TAXES

- 28.1 General
- 28.2 Federal Excise Taxes
- 29.3 State and Local Taxes
- 29.4 Contract Clauses

PART 30 - COST ACCOUNTING STANDARDS

- 30.1 General
- 30.2 Disclosure Requirements
- 30.3 CAS Contract Requirements
- 30.4 CAS Administration

PART 31 - CONTRACT COST PRINCIPLES AND PROCEDURES

- 31.1 Applicability
- 31.2 Contracts with Commercial Organizations
- 31.3 Contracts with Educational Institutions
- 31.4 Reserved
- 31.5 Reserved
- 31.6 Contracts with State, Local, and Federally Recognized Indian Tribal Governments
- 31.7 Contracts with Nonprofit Organizations

PART 32 - CONTRACT FINANCING

- 32.1 General
- 32.2 Reserved
- 32.3 Loan Guarantees for Defense Production
- 32.4 Advance Payments
- 32.5 Progress Payments Based on Costs
- 32.6 Contract Debts
- 32.7 Contract Funding
- 32.8 Assignment of Claims

PART 33 - PROTESTS, DISPUTES, AND APPEALS

- 33.1 Protests
- 33.2 Disputes and Appeals

SUBCHAPTER F - SPECIAL CATEGORIES OF CONTRACTING

PART 34 - MAJOR SYSTEM ACQUISITION

PART 35 - RESEARCH AND DEVELOPMENT CONTRACTING

PART 36 - CONSTRUCTION AND ARCHITECT-ENGINEER CONTRACTS

- 36.1 General
- 36.2 Special Aspects of Contracting for Construction
- 36.3 Special Aspects of Formal Advertising in Construction Contracts

- 36.4 Special Procedures for Negotiation of Construction Contracts
- 36.5 Contract Clauses
- 36.6 Architect-Engineer Services
- 36.7 Standard Forms for Contracting for Construction, Architect-Engineer Services,
and Dismantling, Demolition, or Removal of Improvements

PART 37 - SERVICE CONTRACTING

- 37.1 Service Contracts - General
- 37.2 Consulting Services
- 37.3 Dismantling, Demolition, or Removal of Improvements

PART 38 - FEDERAL SUPPLY SCHEDULE CONTRACTING

- 38.1 Federal Supply Schedule Program
- 38.2 Establishing and Administering Federal Supply Schedules

PART 39 - MANAGEMENT, ACQUISITION, AND USE OF INFORMATION RESOURCES

PART 40 - RESERVED

PART 41 - RESERVED

SUBCHAPTER 6 - CONTRACT MANAGEMENT

PART 42 - CONTRACT ADMINISTRATION

- 42.1 Interagency Contract Administration and Audit Services
- 42.2 Assignment of Contract Administration
- 42.3 Contract Administration Office Functions
- 42.4 Correspondence and Visits
- 42.5 Postaward Orientation
- 42.6 Corporate Administrative Contracting Officer
- 42.7 Indirect Cost Rates
- 42.8 Disallowance of Costs
- 42.9 Reserved
- 42.10 Negotiating Advance Agreements for Independent Research and Development/Bid and Proposal
Costs
- 42.11 Production Surveillance and Reporting
- 42.12 Novation and Change-of-Name Agreements
- 42.13 Reserved
- 42.14 Traffic and Transportation Management

PART 43 - CONTRACT MODIFICATIONS

- 43.1 General
- 43.2 Change Orders
- 43.3 Forms

PART 44 - SUBCONTRACTING POLICIES AND PROCEDURES

- 44.1 General
- 44.2 Consent to Subcontracts
- 44.3 Contractors' Purchasing Systems Reviews

PART 45 - GOVERNMENT PROPERTY

- 45.1 General
- 45.2 Competitive Advantage

- 45.3 Providing Government Property to Contractors
- 45.4 Contractor Use and Rental of Government Property
- 45.5 Management of Government Property in the Possession of Contractors
- 45.6 Reporting, Redistribution, and Disposal of Contractor Inventory

PART 46 - QUALITY ASSURANCE

- 46.1 General
- 46.2 Contract Quality Requirements
- 46.3 Contract Clauses
- 46.4 Government Contract Quality Assurance
- 46.5 Acceptance
- 46.6 Material Inspection and Receiving Reports
- 46.7 Warranties
- 46.8 Contractor Liability for Loss of or Damage to Property of the Government

PART 47 - TRANSPORTATION

- 47.1 General
- 47.2 Contracts for Transportation or for Transportatin-Related Services
- 47.3 Transportation in Supply Contracts
- 47.4 Air Transportation by U.S. - Flag Carriers
- 47.5 Ocean Transportation by U.S. - Flag Vessels

PART 48 - VALUE ENGINEERING

- 48.1 Policies and Procedures
- 48.2 Contract Clauses

PART 49 - TERMINATION OF CONTRACTS

- 49.1 General Principles
- 49.2 Additional Principles for Fixed-Price Contracts Terminated for Convenience
- 49.3 Additional Principles for Cost-Reimbursement Contracts Terminated for Convenience
- 49.4 Termination for Default
- 49.5 Contract Termination Clauses
- 49.6 Contract Termination Forms and Formats

PART 50 - EXTRAORDINARY CONTRACTUAL ACTIONS

- 50.1 General
- 50.2 Delegation of and Limitations on Exercise of Authority
- 50.3 Contract Adjustments
- 50.4 Residual Powers

PART 51 - USE OF GOVERNMENT SOURCES BY CONTRACTORS

- 51.1 Contractor Use of Government Supply Sources
- 51.2 Contractor Use of Interagency Motor Pool Vehicles

SUBCHAPTER H - CLAUSES AND FORMS

PART 52 - SOLICITATION PROVISIONS AND CONTRACT CLAUSES

- 52.1 Instructions for Using Provisions and Clauses
- 52.2 Texts of Provisions and Clauses
- 52.3 Provision and Clause Matrices

PART 53 - FORMS

53.1 General

53.2 Prescription of Forms

53.3 Illustrations of Forms

PART 70 - ACQUISITION OF COMPUTER RESOURCES

Appendix F: Literature Classification Scheme

| TOPIC DESIGNATOR | TOPIC |
|---------------------|---|
| 1 | Federal Acquisition Regulation System |
| 2 | Definitions of Words and Terms |
| 3 | Improper Business Practices and Personal Conflicts of Interest |
| 4 | Administrative Matters |
| 5 | Publicizing Contract Actions |
| 6 | Competition Requirements |
| 7 | Acquisition Planning |
| 8 | Required Sources of Supplies and Services |
| 9 | Contractor Qualifications |
| 10 | Specifications, Standards, and Other Purchase Descriptions |
| 11 | Acquisition and Distribution of Commercial Products |
| 12 | Contract Delivery or Performance |
| C | Contracting Methods and Contract Types |
| 13 | Small Purchase and Other Simplified Purchase Procedures |
| 14 | Sealed Bidding |
| 15 | Contracting by Negotiation |
| 15.6 | Source Selection |
| 15.8 | Price Negotiation |
| 15.9 | Profit |
| 16 | Types of Contracts |
| 17 | Special Contracting Methods |
| D | Socioeconomic Programs |
| 19 | Small Business and Small Disadvantaged Business Concerns |
| 20 | Labor Surplus Area Concerns |
| 22 | Application of Labor Laws to GOvernment Acquisitions |
| 23 | Environment, Conservation, and Occupational Safety |
| 24 | Protection of Privacy and Freedom of Information |
| 25 | Foreign Acquisition |
| 27 | Patents, Data, and Copyrights |
| 28 | Bonds and Insurance |
| 29 | Taxes |
| 30 | Cost Accounting Standards |
| 31 | Contract Cost Principles and Procedures |
| 32 | Contract Financing |
| 33 | Protests, Disputes, and Appeals |
| 34 | Major System Acquisition |
| 35 | Research and Development Contracting |
| 36 | Construction and Architect-Engineer Contracts |

TOPIC
DESIGNATOR

TOPIC

| | |
|------|---|
| 37 | Service Contracting |
| 38 | Federal Supply Schedule Contracting |
| 39 | Management, Acquisition, and Use of Information Resources |
| G | Contract Management |
| 42 | Contract Administration |
| 43 | Contract Modifications |
| 44 | Subcontracting Policies and Procedures |
| 45 | Government Property |
| 46 | Quality Assurance |
| 46.8 | Contractor Liability for Loss of or Damage to Property of the Government |
| 47 | Transportation |
| 48 | Value Engineering |
| 49 | Termination of Contracts |
| 50 | Extraordinary Contractual Actions |
| 51 | Use of Government Sources by Contractors |
| 52 | Solicitation Provisions and Contract Clauses |
| 53 | Forms |
| 70 | Acquisition of Computer Resources |
| 80 | Business Environment |
| 81 | Women in Procurement |
| 82 | State/Local Contracting |
| 83 | Professionalism |
| 84 | International |
| 85 | Defense Industrial Base |
| 86 | Education |
| 87 | Research |
| 88 | History |
| 89 | Organizational Environment |

Bibliography

1. Charnley, Alan H. Research in Adult Education in the British Isles. National Institute of Adult Education, London, 1974.
2. Cooper, Harris M. "A Taxonomy of Literature Reviews." Invited Address to the American Education Research Association. Chicago IL, 1985.
3. Culver, C. M. Federal Government Procurement - An Uncharted Course Through Turbulent Waters. McLean VA: National Contract Management Association, 1985.
4. Dalkey, Norman C. "Delphi," Second Symposium on Long-Range Forecasting and Planning. 1-11. Santa Monica: The RAND Corporation, October 1967.
5. Emmelhainz, Larry W. and James R. Stock. "Logistics Journals: What Matters to the SOLE and Non-SOLE Logistician," Proceedings of the Society of Logistics Engineers 23rd Annual Symposium. 467-473. Huntsville AL: Society of Logistics Engineers, 1988.
6. Evans, Capt Stuart J. and others. National Security Management: Procurement (Second Printing). Washington: Industrial College of the Armed Forces, 1968.
7. Fingeret, Arlene. Adult Literary Education: Current and Future Directions. Information Series No. 284. ERIC Clearinghouse on Adult, Career, and Vocational Education, Ohio State University, Columbus OH, 1984.
8. Guralnik, David B., eds. Webster's New World Dictionary (Second College Edition). New York: Simon and Schuster, 1982.
9. Hirsch, William J. The Contracts Management Deskbook. New York: AMACOM, 1983.
10. Hood, Joseph L. "Skills of the Effective Contract Manager," Contract Management, 29: 12-14 (January 1989).
11. Juran, Joseph M. and others, eds. Quality Control Handbook. New York: McGraw-Hill Book Company, 1974.
12. Linstone, Harold A. and Murray Turoff, eds. The Delphi Method. Reading MA: Addison-Wesley Publishing Company, 1975.

13. Martin, Lt Col Martin D. and others. "A Proposed Definition and Taxonomy for Procurement Research in the DoD," National Contract Management Journal, 11: 89-105 (Winter 1977-1978).
14. Merriam, Sharan B. "Finding Your Way Through the Maze: A Guide to the Literature on Adult Learning," Lifelong Learning: An Omnibus of Practice and Research, 11: 4-7 (1988).
15. Merriam, Sharan B. and Edwin L. Simpson. A Guide to Research for Educators and Trainers of Adults. Malabar FL: Robert E. Krieger Publishing Company, 1984.
16. NCMA Board of Directors. "Education and Training Program Planning Structure." NCMA Education Department, Vienna VA, June 1988.
17. NCMA Board of Directors. "NCMA Member Survey." NCMA Headquarters, Vienna VA, February 1989.
18. Park, Steven A. The Possibility of a Contracting Science. MS thesis. Naval Postgraduate School, Monterey CA, December 1986 (AD-A177 787).
19. Peterson, Steven W. Numerical Methods for the Evaluation of Potential Research and Development Contractors. MS thesis. USAMC Intern Training Center, Red River Army Depot, Texarkana TX, April 1975 (AD-A009415).
20. Pursch, William C., President, National Contract Management Association. Personal interview. Air Force Institute of Technology, Wright-Patterson AFB OH, 29 August 1988.
21. Sherman, Stanley N. Contract Management: Post Award. Gaithersburg MD: Woodcrafters Publications, 1987.
22. Sork, T. J. and J. H. Buskey. "A Descriptive and Evaluative Analysis of Program Planning Literature," Adult Education Quarterly, 36: 86-96 (1986).
23. Tateyama, Maj Joseph T. A Defense Systems Acquisition Management Taxonomy and Inventory of Official Acquisition Management Documents. Study project report, PMC 77-1. Defense Systems Management College, Fort Lee VA, May 1977 (LD-39970A).
24. Thornton, LCDR Connie L. Contracting: A Systematic Body of Knowledge. MS thesis. Naval Postgraduate School, Monterey CA, December 1987 (AD-A193531).

25. Turban, Efraim and Jack R. Meredith. Fundamentals of Management Science. Plano TX: Business Publications, Inc., 1988.
26. United States Defense Acquisition Regulation Council. Federal Acquisition Regulation. Washington: Government Printing Office, April 1984.
27. Vom Baur, F. Trowbridge. "Book Review: Government Contract Disputes By Peter S. Latham," Public Contract Law Journal, 13: 198-200 (July 1982).
28. Williams, William B. and Duane Knittle. A Guide to Resources and Sources of Information for Acquisition Research. Report No. APRO-802. Fort Lee: Army Procurement Research Office, January 1980.

Vita

Captain Mary L. Farquhar [REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] attended St. Petersburg Junior College, from which she received the degree of Associate of Science in Dental Hygiene in May 1979. After practicing dental hygiene in the civilian sector for two years, she enlisted in the Air Force in September 1981, and was assigned to the 33rd Tactical Fighter Wing, Eglin AFB, Florida, where she worked as Integrated Avionics Systems Specialist. Upon completion of two years of active duty service, she was granted an early separation to enter the Reserved Officer Training Corps at Troy State University in September 1983. She graduated in May 1985, receiving a regular commission and a degree of Bachelor of Science in Resource Management. Captain Farquhar worked as a dental hygienist in St. Petersburg, Florida, until called to active duty in October 1985. She was assigned to the Base Contracting Office at Tyndall AFB, Florida, where she served as the Supplies Branch Chief until entering the School of Systems and Logistics, Air Force Institute of Technology, in May of 1988.

Permanent address: [REDACTED]
[REDACTED]

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

| | | | | |
|---|-----------|---|--|--|
| 1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED | | | 1b. RESTRICTIVE MARKINGS | |
| 2a. SECURITY CLASSIFICATION AUTHORITY | | | 3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited | |
| 2b. DECLASSIFICATION/DOWNGRADING SCHEDULE | | | | |
| 4. PERFORMING ORGANIZATION REPORT NUMBER(S) AFIT/GCM/LSP/89S-5 | | | 5. MONITORING ORGANIZATION REPORT NUMBER(S) | |
| 6a. NAME OF PERFORMING ORGANIZATION School of Systems and Logistics | | 6b. OFFICE SYMBOL (If applicable) AFIT/LSY | 7a. NAME OF MONITORING ORGANIZATION | |
| 6c. ADDRESS (City, State, and ZIP Code) Air Force Institute of Technology Wright-Patterson AFB OH 45433-6583 | | | 7b. ADDRESS (City, State, and ZIP Code) | |
| 8a. NAME OF FUNDING/SPONSORING ORGANIZATION | | 8b. OFFICE SYMBOL (If applicable) | 9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER | |
| 8c. ADDRESS (City, State, and ZIP Code) | | | 10. SOURCE OF FUNDING NUMBERS | |
| | | | PROGRAM ELEMENT NO. | PROJECT NO. |
| | | | TASK NO | WORK UNIT ACCESSION NO. |
| 11. TITLE (Include Security Classification) AN ANALYSIS OF THE LITERATURE BASE OF DEFENSE CONTRACT MANAGEMENT | | | | |
| 12. PERSONAL AUTHOR(S) Mary L. Farquhar, B.S., Capt, USAF | | | | |
| 13a. TYPE OF REPORT MS Thesis | | 13b. TIME COVERED FROM _____ TO _____ | | 14. DATE OF REPORT (Year, Month, Day) 1989 September |
| 15. PAGE COUNT 157 | | | | |
| 16. SUPPLEMENTARY NOTATION | | | | |
| 17. COSATI CODES | | | 18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) | |
| FIELD | GROUP | SUB-GROUP | | |
| 05 | 01 | | Literature Surveys Management Contract Administration Acquisition Government Procurement | |
| 19. ABSTRACT (Continue on reverse if necessary and identify by block number) | | | | |
| <p>Thesis Advisor: Rita Wells Assistant Professor Department of Contract Management</p> <p>Approved for public release: IAW AFR 190-1. <i>Larry W. Emmelhainz</i> LARRY W. EMMELHAINZ, Lt Col, USAF 11 Oct 89 Director of Research and Consultation Air Force Institute of Technology (AU) Wright-Patterson AFB OH 45433-6583</p> | | | | |
| 20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> OTIC USERS | | | 21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED | |
| 22a. NAME OF RESPONSIBLE INDIVIDUAL Rita Wells, Assistant Professor | | | 22b. TELEPHONE (Include Area Code) (513)255-3944 | 22c. OFFICE SYMBOL LSP |

UNCLASSIFIED

→ The purpose of this study was to analyze the literature base of the defense contract management field. A descriptive research method was used to answer the five investigative questions. These questions addressed the major themes and neglected topics, major contributing authors, focus, perspective, and evolution of the literature.

The Delphi process of questioning was used to obtain expert opinion to support the purposefulness of the study and the definitization of the investigative questions. Once the Delphi process was completed, the investigative questions were developed. The literature analysis consisted of the review of 1,131 defense contract management articles published in the National Contract Management Journal and the Contract Management magazine.

The study identified "Federal Acquisition Regulation System" as the most popular topic in the literature while topics of a legal nature had been neglected. The 14 major contributors had written over 50 percent of the literature reviewed. Almost 50 percent of the literature had a conceptual focus and its overall perspective was primarily editorial. The analysis of the evolvement of the Contract Management magazine indicated that defense contract management had closely followed current events over the years. *Trees*

(S)

UNCLASSIFIED